

The next-generation Thermo Scientific AutoMITTER PRO features a single board, user-friendly design to simplify maintenance and troubleshooting. It also minimizes capital expenses by eliminating the need for separate transmitters and enables monitoring and SCADA control of multiple orifice runs for even greater cost reduction.

Thermo Scientific AutoMITTER PRO

Smart Multi-Variable Transmitter



Product Features

- Single board, user-friendly design
 - Rotary switch for addressing
 - Easily accessible, daisy-chainable connections
- Differential pressure and static pressure accuracy of up to $\pm 0.075\%$
- High differential pressure operating range with 400:1 turndown
- Highly accurate temperature measurement over wide operating range
- Compact, lightweight and easy-to-install
- Three models available in gauge or absolute

Wide Range of Operability

The Thermo Scientific AutoMITTER PRO is a 3-in-1 device designed for highly accurate volumetric rate calculations. This smart multi-variable transmitter integrates seamlessly with Thermo Scientific gas flow computers to measure differential pressure, static pressure and temperature. It features a high operating range for differential pressure yet has a 400:1 turndown, enabling this one transmitter to be used on virtually any application. For ultrasonic and other temperature-sensitive applications, the AutoMITTER PRO offers highly accurate temperature measurement to within 0.1°C . From high accuracy to low cost, three different models are available, ensuring a tailored, cost-effective solution for every application.

Simplified Design

With a rotary switch for addressing and easily accessible, daisy-chainable connections, the single board design

simplifies installation, maintenance and troubleshooting. In addition, it saves analog inputs by maintaining a full digital signal through to the flow computer, eliminating the need for an additional input board. The device mounts remotely and is easy to configure for fast, simple start-up.

Built for Extreme Environments

Like all Thermo Scientific gas flow products, the AutoMITTER PRO endures extreme environmental conditions. All signal terminations are tested to withstand in excess of 120 consecutive, indirect lightning strikes, measuring up to 6,000 volts/3,000 amps each. The standard operating temperature range is -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$) to optimize reliability and durability.

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Hardware

RTD Input	Accuracy: $\pm 0.10^{\circ}\text{C}$ ($\pm 0.18^{\circ}\text{F}$) for 100-ohm platinum RTD – 0.00385 coefficient; Ambient temperature effect: $\pm 0.0013^{\circ}\text{C}$ per 1°C change; Repeatability: $\pm 0.01^{\circ}\text{C}$ ($\pm 0.018^{\circ}\text{F}$)
Communications	RS485, maximum serial data rate: 9600 bps; Protocol: 8-bit RTU Modbus at 9600 bps

Electrical

Input Power	+5.5 VDC to +16 VDC
Current Consumption	Normal operation (unit in sleep mode except during intermittent polling): 6 mA average; With continuous polling (unit in awake mode): 12 mA average
Input/Output Protection	All I/O lightning/surge protected; Meets or exceeds IEEE 472

Environmental

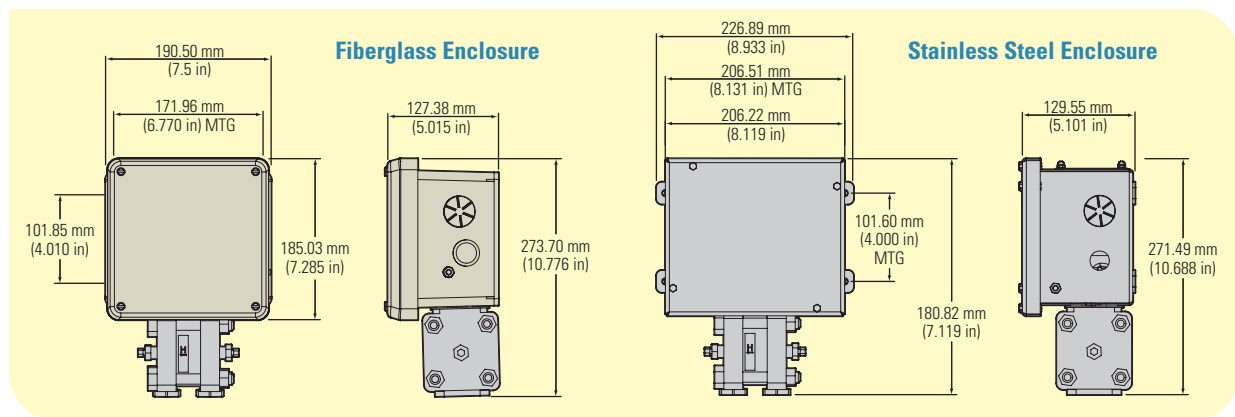
Operating Temperature Range	Standard: -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$); ATEX: -40°C to $+80^{\circ}\text{C}$ (-40°F to $+176^{\circ}\text{F}$)
Operating Humidity Range	0 to 95%, non-condensing
Enclosure Rating	NEMA 4X / IP65 industrial control enclosure; Fiberglass reinforced polyester or stainless steel (optional)
Certifications	FM: C/US Class I, Div. 1, Groups C & D; CSA: C/US Class I, Div. 2, Groups C & D; ATEX: II 1 G Ex ia IIB T4 (-40°C to $+80^{\circ}\text{C}$)

	400"/750 psia	400"/1500 psia	400"/3000 psig
Upper Range Limit (URL)	400" H ₂ O	400" H ₂ O	400" H ₂ O
Turndown Ratio	± 400 to 1	± 400 to 1	± 400 to 1
Minimum Span	1" H ₂ O	1" H ₂ O	1" H ₂ O
Accuracy ¹	$\pm 0.075\%$	$\pm 0.075\%$	$\pm 0.075\%$
Accuracy ²	0.0125% \pm 0.0625%	0.0125% \pm 0.0625%	0.0125% \pm 0.0625%
Zero Temperature Effect ¹	$\pm 0.1\%$ per 28°C (50°F)	$\pm 0.1\%$ per 28°C (50°F)	$\pm 0.125\%$ per 28°C (50°F)
Combined Zero + Span Temperature Effect ¹	$\pm 0.225\%$ per 28°C (50°F)	$\pm 0.225\%$ per 28°C (50°F)	$\pm 0.325\%$ per 28°C (50°F)
Pressure Effect ¹	$\pm 0.24\%$ per 1000 psi	$\pm 0.12\%$ per 1000 psi	$\pm 0.15\%$ per 1000 psi
Combined Zero + Span Static Pressure Effect ¹	$\pm 1.04\%$ per 1000 psi (70 bar)	$\pm 0.52\%$ per 1000 psi (70 bar)	$\pm 0.35\%$ per 1000 psi (70 bar)
Drift	$\pm 0.25"$ of H ₂ O per year	$\pm 0.25"$ of H ₂ O per year	$\pm 0.25"$ of H ₂ O per year
	400"/750 psia	400"/1500 psia	400"/3000 psig
Upper Range Limit (URL)	750 psia	1500 psia	3000 psia
Turndown Ratio	150 to 1	15 to 1	30 to 1
Minimum Span	5 psia	100 psia	100 psig
Accuracy ¹	$\pm 0.075\%$	$\pm 0.075\%$	$\pm 0.075\%$
Accuracy ²	0.0125% \pm 0.0625%	0.0125% \pm 0.0625%	0.0125% \pm 0.0625%
Zero Temperature Effect ¹	$\pm 0.1\%$ of calibrated span	$\pm 0.1\%$ of calibrated span	$\pm 0.1\%$ of calibrated span
Combined Zero + Span Temperature Effect ¹	$\pm 0.225\%$ per 28°C (50°F)	$\pm 0.225\%$ per 28°C (50°F)	$\pm 0.125\%$ per 28°C (50°F)
Drift (at reference conditions)	± 0.12 psi per year	± 0.12 psi per year	± 0.75 psi per year

¹Percentage accuracy of calibrated span or Upper Range Value (URV), whichever is greater.

²Percentage accuracy for URV below referenced value.

AutoMITTER PRO Dimensional Drawing



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