Honeywell

Field Measurement

SMV 3000 Smart Multivariable Transmitter

The Enhanced Choice for Mass Flow and Level Measurements

SMV 3000 Smart Multivariable Transmitter provides four outputs with one instrument—differential pressure, absolute or gauge pressure, process temperature (via RTD or thermocouple), and compensated mass flow rate—for air, liquids, gases, and steam.

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Ease of Configuration

Not only can SMV 3000 do the job of up to four instruments—you select the combination of measurements you want. You can use one SMV 3000 for compensated mass flow applications, such as superheated steam and natural gas, instead of three separate transmitters. With the same high performance you have come to expect from Honeywell's other Smartline® instruments, SMV 3000 can help you achieve significant savings on installation, life-cycle costs, and capital expenditures.

Dynamic Flow Compensation

SMV 3000 performs dynamic flow calculations. Most differential pressure transmitters used in flow applications today do not compensate for variables such as density, discharge coefficient, thermal expansion factor, and gas expansion factor. Traditional single-variable differential pressure (DP) transmitters cannot compensate for error-producing changes in process pressure, temperature, or flow rate, so accuracy is diminished. By dynamically compensating for such variables, SMV 3000 provides the highest mass flow accuracy possible for DP flow applications. Instead of the traditional 3-to-1 flow turndown for a DP transmitter and orifice plate, SMV 3000 can provide better performance over a larger flow turndown—up to 8 to 1.

Primary flow configuration, calibration, and diagnostics of the SMV 3000 are easily performed using the SCT 3000 Smartline Configuration Toolkit. The SCT 3000 consists of software and PCMCIA hardware that allows instrumentation engineers and maintenance personnel to configure SMV 3000 via a personal computer utilizing Windows 95, 98, 2000, or NT (4.0).

Helpful programming "Wizards" allow you to configure flow application information quickly and easily. The hand-held Smart Field Communicator can also be used to configure, monitor, and check transmitter status.

A Variety of Primary Elements

With SMV 3000 there is no need to buy a separate absolute or gauge pressure transmitter and temperature transmitter; it measures those variables as well as the primary flow variable—differential pressure. When coupled with a primary flow element, SMV 3000 allows you to report accurate mass flow rates of steam, air, conductive or non-conductive liquids, and process gases such as ammonia, ethylene, methane, fuel gas, or natural gas.

Designed with flexibility in mind, SMV 3000 allows you to choose the appropriate primary flow element for your specific application. Whether you use an orifice plate in a natural gas application or an averaging Pitot tube in a combustion air or fuel gas application, SMV 3000 is the enhanced choice for mass flow. Easily configured with the Honeywell SCT 3000 Smartline Configuration Toolkit, SMV 3000 can provide a complete mass flow solution with most primary elements, including the following:

- ASME/ISO Orifices
- Venturis
- Nozzles
- Averaging Pitot Tubes
- Laminar Flow Elements
- Integral Orifice Assemblies

Honeywell can help you decide which primary element technology is best for your application.

Accurate and Versatile

Access to multiple digital process variables allows you to use SMV 3000 in level applications where compensated level can be calculated at the control system. For further versatility, SMV 3000 can be digitally integrated to Honeywell's TPS system or PlantScape® system or to Allen-Bradley PLC/SLC platforms using ProSoft technology.

In addition, SMV 3000's output flexibility helps you achieve multivariable integration with analog instrumentation using the MVA Multivariable Analog Card. The MVA uses the digital (DE) signal from SMV 3000 and provides up to four accurate analog outputs (1-5 V), as well as a transmitter status relay. If you do not need multiple analog outputs, you can configure the SMV 3000's 4-20mA signal to represent any PV you desire.

Condensed Specifications

SMV 3000 Smart Multivariable Transmitter Technical Data				
Models	SMA110: 0-25" H_2O SMA125: 0-400" H_2O SMG170: 0-400" H_2O	0-100 psia 0-750 psia 0-3000 psig	RTD or TC RTD or TC RTD or TC	Flowrate Flowrate Flowrate
Accuracy	Differential Pressure: ±0.075% of Calibrated Span* Absolute Pressure: ±0.075% of Calibrated Span Temperature: ±1°F (±0.6°C) for RTD and ±1.8°F (1.0°C) for TC Flowrate: ±1.0% of rate			
Flow Turndown	8:1			
Temperature Input	2, 3, or 4 wire Pt. 100 Ohm RTD Type J, K, T, or E Thermocouple			
Approvals	FM, CSA, CENELEC, Zone 2 (Self Declared)			
Output	4-20 mA or multivariable DE digital			
CE Conformity	89/336/EEC, Electromagnetic Compatibility (EMC) Directive			

**± 0.1% for SMA 110*

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