

Smart Flow Meter Does The Work of Three Devices In Multi-Gas or Variable Flow Processes

Chemical, Electric Power, Oil/Gas, Pollution Monitoring, Steel, Wastewater



San Marcos, CA

One mass flow meter now does the work of up to three in dirty, explosive or high temperature air/gas environments up to 850 °F--thanks to the Multiple Calibration Groups designed into the advanced transmitter developed for the GF90 Mass Flow Meter from Fluid Components International.

The GF90 is an insertion type thermal mass flow meter with a highly intelligent microprocessor-based transmitter that stores up to three calibration groups, which can be independently configured for a specific range, media, switch point settings and more. For example, a hydrogen line requiring periodic purging with nitrogen gas can be measured with a single GF90 flow meter by storing the unique calibrations for both of the gases in two of the three available calibration groups in the transmitter.

Process engineers who require accurate gas flow measurement, and who also need to simplify complex processes while reducing instrumentation cost, will find the GF90 to be an ideal solution. It is designed for gas flow measurement tasks in the chemical, petroleum, pollution monitoring, steel, wastewater and other heavy industries. Precise measurement of exhaust stack gases, digester gases, hydrogen make-up gases, process gases, and fuel gases are typical applications for the GF Series.

The GF90 transmitter's smart electronics are addressable via a built-in LCD display and keypad or through its RS-232C and RS-485 serial ports. This allows the user to perform in-field programming to change zero, span, switch points and engineering units, or to perform instrumentation verification, troubleshooting and other critical functions. The serial I/O ports support access to computers or ASCII terminals.

The GF90's transmitter features two independent, field programmable analog signal outputs of 4-20 mA, 0-10 Vdc, 0-5 Vdc, and/or 1-5 Vdc. Dual alarm switch points are designed into the GF90. The switch points are field programmable to alarm at high, low or windowed flow. They are also programmable at high, low or windowed process temperature. Dual 10A relay outputs are provided for contact closures to lamps, alarm and control systems.

An auxiliary input terminal is available for connecting the GF Series to external signal sources that provide real-time compensation for complex applications. Through this terminal, composition analyzers, pressure and temperature transducers, densitometers and other devices can perform signal correction for even higher accuracy within close tolerances. The terminal also permits remote switching between the calibration groups.

With its thermal dispersion technology flow sensing element and no moving parts design, the GF90 is unmatched in heavy industrial applications. Standard turndown ratio is 100:1, with higher turndown ratios up to 1000:1 possible in some applications. Flow accuracy is $\pm 1\%$ of reading $+0.5\%$ full scale.

The GF90 supports ducts or pipe sizes from 2 inches [51 mm] diameter and up. The standard flow element has a 1 inch male NPT process connection and an application specific insertion length. Flange connections and field retractable packing gland assemblies are available. Flow sensitivity is from 0.25 to 1600 SFPS [ft/sec at a standard temperature of 70°F and pressure of 14.7 psia] or 0.08 to 487.7 NMPS [m/sec at a normal temperature of 21.1°C and pressure of 1.013 bar absolute].

A NEMA Type 4X (IP66) transmitter enclosure is standard, and it comes with configurations for local or remote mount applications. Optional Class I and II, Division 1 and 2, Groups B, C, D, E, F and G [Ex d IIC] transmitter enclosures are also available. Approvals: Factory Mutual Research, CSA, ATEX and CE Mark.

Fluid Components International is a global company committed to meeting the needs of its customers through innovative solutions to the most challenging requirements for sensing, measuring and controlling flow and level of air, gases and liquids.