

SmartLine® Multivariable Transmitter with Modbus® Communication

Product Information Note

SmartLine® Multivariable Transmitter SMV800 provides accurate measurement of differential pressure, static pressure (gauge/absolute), and process temperature with dynamically compensated mass or volume flow rate and totalized flow for gases, steam and liquids. This Single transmitter capable of multiple measurements and calculations, combines the flexibility of various communication protocol options like DE, HART, and Modbus ensuring easy interface with host systems, thereby reducing the total number of devices and associated installation, commissioning, hardware, and maintenance costs.

Available with Modbus RTU(RS-485) communication protocol, SMV800 is an ideal choice for a wide range of applications, including custody transfer of natural gas in the oil and gas upstream and mid-stream in conjunction with RTUs/flow computers, as well as process applications in power, metals, chemical, refining and petrochemicals, glass, paper and other industries.

Customer Challenge

Customers across industry verticals are looking at ways to improve efficiency and productivity while reducing their overall costs. Simply put, everyone wants to do more with less.



Oil & Gas upstream and mid-stream markets have assets like wellheads and natural gas pipelines that are located in remote areas and are geographically dispersed, resulting in high operating costs, reduced measurement accuracies and higher probability of unnoticed production losses. The SmartLine multivariable transmitter helps meet this challenge



SmartLine Multivariable Transmitter SMV800 is a versatile device suitable for direct measurement of process variables and dynamically compensated flow. As single transmitter, capable of multiple measurements and calculations, reduces the number of devices by one fourth, minimizes installation hardware and labor, and reduces engineering time.

Benefits

- *Reduced downtime and production losses*
- *Increased throughput*
- *Improved product quality*
- *Reduced inventory and maintenance*
- *Reduced total cost of ownership*

head on, providing stable, reliable and accurate measurements under varying well conditions allowing customers to focus on ones that are under-performing. Easy integration with Honeywell hosts such as ControlEdge RTU, Experion and ControlEdge PLC or third-party RTUs, and flow computers makes it ideal for new installations or drop-in replacement of existing devices.

SmartLine Multivariable transmitter with Modbus communication also has a major impact on industrial processes as it helps to have tighter integration with hosts and share more data from the field like the measured process variables, compensated mass or volume flow and totalized flow, especially with control and monitoring systems like PLCs, hybrid-controllers, recorders and SCADA systems without use of external tri-loop converters.

Direct digital values, fast data transmission of up to 19.2 kbps, reduced analog input modules on the host and reduced cabling lead to better accuracy and increased savings

Solution

SmartLine Multivariable Transmitter SMV800 provides reliable, accurate, and stable measurement of differential pressure, static pressure and process temperature with dynamically compensated mass or volume flow in accordance with global engineering standards, and compatible with a variety of primary flow elements.

Key Differentiators

- Flow algorithms and totalization capability
- Universal temperature inputs
- Low power consumption
- Extended measurement range
- High turndown ratio
- Galvanic isolation up to 2000 VDC.
- Easy set-up and diagnostics with intuitive configuration screens
- Polarity insensitive power terminals
- Fail-safe measurement
- Upgradable with license keys

Key Capabilities

Low power consumption

Solar power is commonly used in the oil and gas upstream and midstream segments, particularly at remote sites where local power is not available or possible.

The SmartLine multivariable transmitter's low power consumption enables reduced battery sizes, fewer solar panels, and extended battery life, resulting in direct savings.

Display host parameters on SMV800 local display

SmartLine Multivariable Transmitter SMV800 comes with an optional integral, advanced display capable of multiple display formats and screens. The display can be configured to show SMV800 measured variables and variables from host systems, which don't have an integral display e.g., calculated instantaneous flow and totalized flow from RTU/FC/PLC, host output or other host variables. Upto eight such variables can be configured to be displayed on the SMV advanced display.

This provides field technicians with quick insight into process, which aids in maintenance. Screens can be configured for rotation time of 3s to 30s to display the variables at defined intervals.



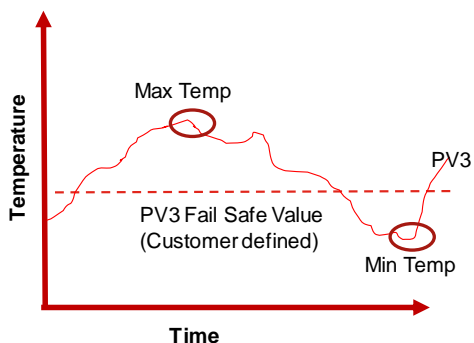
Configurable user defined variables

Extended measurement ranges

SmartLine Multivariable transmitter is capable of a high DP range of -400" to 400" WC as standard with a high turndown ratio of 400 to 1, making it ideal for applications with large flow variations e.g., flow measurement on gas wells. In addition, the transmitter is rated for high static pressure up to 310 barg to measure pressure spikes or consistently high static pressures in such applications, A single device measures high DP up to 400" WC and high static pressure of up to 310 barg, while maintaining high accuracy levels, ensuring stable and accurate measurements across wide operating ranges for optimal performance and increased profitability.

Fail-safe measurement

SmartLine Multivariable Transmitter SMV800, when used for compensated mass or volume flow measurement, can be configured to keep running at pre-set values for process temperature or static pressure. In the event of failure of the temperature sensor or the static pressure measurement, SMV800 continues to provide flow measurement based on the user-defined, pre-set values for process temperature or static pressure to ensure no downtime and production losses.



Preset Values for Process Temperature

This functionality does not allow the temperature sensor to fail flow measurement.

Easy configuration & calibration

SmartLine Multivariable Transmitter SMV800 can be configured using 'SmartLine Modbus Manager' a user-friendly, intuitive and comprehensive PC based Modbus host.



SmartLine Modbus Manager

Alternately, the transmitter is available with an optional three-button assembly, which can be used to configure the device for basic parameters like slave ID, baud rates, measured variables and local display without the use of any external tools.

Upgrade with License Keys

SmartLine Multivariable Transmitter offers flexibility for users to choose options based on their process requirements and upgrade in the future if needed. SMV800 Modbus multivariable transmitter can be upgraded in the field after supply by acquiring the appropriate license keys from the factory and entering the license keys using PC based configuration tool or the external three-button assembly. Transmitter with RTD input can be upgraded to accept universal input and the device with direct process variables measurement capability can be upgraded to provide fully compensated mass or volume flow.

For More Information

Learn more about how Honeywell solutions can fit your operations, visit www.honeywellprocess.com or contact your Honeywell Account Manager.

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