

FloBoss™ 503 Flow Manager

The FloBoss™ 503 Flow Manager is a high-performance, single-run flow computer that provides superior value where the orifice-plate metering of natural gas is required. It is designed for Class I Division 2 hazardous areas and has internal mounting space for a radio and up to four batteries.

Advanced Technology. The FloBoss 503 features a 32-bit processor for quick response to I/O, fast calculation results, and excellent communications support. A Dual-Variable sensor measures both static and differential pressure for accurate flow measurement. The sensor's reference accuracy of 0.075% helps reduce lost and unaccounted gas. Field calibration is also lessened due to the sensor's high stability.

The Dual-Variable sensor is normally mounted to the bottom of the FloBoss 503 enclosure for Class I, Division 2 installations. A remote-mount sensor is available for Class I Division 1 installations.

The FloBoss 503 lowers battery and solar panel costs because it employs a standby mode that reduces power consumption during periods of inactivity. In addition, a power control feature helps reduce the power consumed by radios and cell phones.

Easy to Use. The FloBoss 503 makes the complex calculations associated with AGA-compliant gas flow measurement simple to implement. To reduce the time needed to get each unit up and running quickly, the firmware provides default values for key parameters.



The FloBoss 503 offers users PID loop control capability for precise, tight regulation of a control valve. Likewise, user-defined logic and sequencing control is a standard feature that can solve a wide range of measurement and control problems not possible with traditional flow computers.

A built-in display panel on the front cover of the FloBoss 503 scrolls up to 16 user-selectable values for quick, convenient viewing.

Flow Computer Division

Phone (641) 754-3449 Toll Free (800) 807-0730 (US & Canada only)

FAX (641) 754-3630

Website: www.EmersonProcess.com/flow

Supported by ROCLINK. The FloBoss 503 can be configured and operated on-site using our Windows® based ROCLINK software package. ROCLINK runs on almost any laptop or desktop personal computer and uses a simple fill-in-the-blanks approach to configuration.

Modular and Expandable. The power requirements of the FloBoss 503 are met by up to four low-cost 7 amp-hour batteries that are suitable for either solar or line-powered installations.

In addition to the operator interface port, a second communication port is available for host communication or equipment interfacing. By using plug-in cards, this port can interface to an EIA-232 (RS-232) or EIA-485 (RS-485) direct line, or to a dial-up phone line.

The FloBoss 503 can interface to a variety of field instrumentation, such as transmitters, control valves, and motors, using plug-in I/O expansion cards. Two cards are available, one with 10 I/O channels and the other with 24 I/O channels. Each provides a combination of analog and discrete inputs and outputs.

Easy to Integrate. The FloBoss 503 offers system integrators a choice of native ROC or MODBUS protocols for seamless integration into new or existing automation systems. Both polled and spontaneous report-by-exception communication strategies can be implemented.

The FloBoss 503 is supported by popular host software packages from companies such as Cygnet, Intellution, Standard Automation, US Data, and Wonderware.

Specification Summary.

Input/Output

- Dual-variable sensor measures static and differential pressure with a reference accuracy of $\pm 0.075\%$ and stability of $\pm 0.1\%$.
- Built-in RTD input.
- Optional 10-channel I/O card adds 4 discrete inputs (2 can be used as pulse inputs), 2 discrete outputs, 3 analog inputs, and 1 analog output.
- Optional 24-channel I/O card adds 8 selectable discrete inputs/outputs, 8 analog inputs, 2 discrete outputs, 2 relay outputs, 2 analog outputs, and 2 pulse inputs.

Communications

- One operator interface port is standard.
- One additional port is available using a plug-in card of the following types: EIA-232, EIA-485, or dial-up modem.
- ROC and Modbus protocols are supplied.

Functionality

- AGA gas measurement for 1 meter run.
- PID loop control with override for 1 loop.
- Logic/sequencing control implemented through 2 function sequence tables (FSTs).
- Archival of 15 history points.
- Logging of 240 alarms and 240 events.
- 16 log-on identifiers (IDs) may be stored for security.
- Sampler control for odorizers, etc.

Compliance

- AGA-3 and AGA-8 (version 1992).
- API Chapter 21.1.

Approvals

Approved by CSA for hazardous locations, Class I, Division 2, Groups A, B, C and D.

Enclosure

Powder-coated 14 gauge carbon steel. Meets CSA Type 4 rating (NEMA 4). 18.12 inches high (with sensor) by 13.8 inches wide by 7.25 inches deep (457 mm by 351 mm by 184 mm).

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