



# FloBoss™ 504 Flow Manager.

The FloBoss™ 504 Flow Manager is a high-performance, single-run flow computer that accurately measures natural gas flow when connected to a turbine meter having a single or dual pulse train output. 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 504 features a 32-bit microprocessor to ensure quick response to I/O, fast calculation results, and excellent communications support. Accurate flow measurement is ensured by an integral sensor module (SM) that measures, converts, and accumulates pulse counts from a single or dual-output turbine meter. A static pressure sensor element and an optional auxiliary pressure sensor element are built into the SM for measuring line pressure. The FloBoss can measure gas temperature using an RTD connected to its dedicated RTD input.

Battery requirements are kept to a minimum because power consumption is reduced during periods of processor and radio or cell phone (if equipped) inactivity. A built-in solar power regulator further increases operating efficiency and lowers installation cost.



The FloBoss 504 employs an advanced error detection algorithm that meets API and ISO level C through E data transmission security when used with a precision turbine meter.

#### Flow Computer Division

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**Easy to Use.** The FloBoss 504 makes the complex calculations associated with AGA-7 or ISO/API gas flow measurement simple to implement. To reduce startup time, default values are provided in the firmware for key parameters.

Fisher's ROCLINK™ for Windows Configuration Software, running on a notebook PC, serves as a local user interface. It employs user-friendly features like dialog boxes, help screens, and mouse operation. A built-in display panel on the front cover scrolls up to 16 user-selected values for quick, convenient viewing.

**Modular and Expandable.** The FloBoss 504 uses either solar or line power, with backup provided by up to four low-cost batteries.

In addition to the operator interface port, a second communication port is provided for host communication or equipment interfacing. Using optional plug-in cards, this port can interface to an EIA-232 or EIA-485 direct line, or to a dial-up phone line.

A plug-in I/O card extends the applications capability of the FloBoss 504 by allowing it to interface to a variety of field instrumentation including transmitters, control valves, motors, and discrete devices.

**Easy to Customize.** The FloBoss 504 offers PID loop control capability for precise, tight regulation of a control device. Logic and sequencing control is standard and allows the unit to solve a wide range of measurement and control problems not possible with traditional flow computers. System integrators can incorporate the FloBoss 504 into new or existing automation systems using either native ROC or MODBUS protocols. Polled, "report-by-exception" alarm calling, and store-and-forward communication strategies are supported.

## Specification Summary.

### Sensor Module (SM)

- 2 voltage-sense pulse counter inputs.
- 1 standard and 1 optional static pressure input. Accuracy is 0.5% of span (between -20 and 50°C) for all ranges (up to 1,000 psi).

### Input/Output

- 1 analog input, for direct-connect 2, 3, or 4-wire RTD element.
- 1 discrete output (sourced).
- Optional I/O cards add discrete inputs, discrete outputs, analog inputs, and analog outputs.

### Communications

- **Ports:** 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.
- **Protocols:** ROC and Modbus are supplied.

### Functionality

- AGA turbine gas measurement for 1 meter run.
- PID loop control with override for 1 loop.
- Logic/sequencing control implemented through function sequence tables (FSTs).
- Archival of history points.
- Logging of 240 alarms and 240 events.

### Compliance

- AGA-7 (version 1996) and AGA-8 (version 1992).
- API Chapter 5, Section 5.
- ISO 9951, 12213-2, 6651.

### 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). 16.56 inches high (with TIM) by 13.8 inches wide by 7.25 inches deep (420 mm by 351 mm by 184 mm).

### Operating Conditions

- **Input Power:** 8 to 15 volts dc. 0.35 watt typical power consumption, excluding I/O and communication cards.
- **Temperature:** -40 to 167 degrees F (-40 to 75 degrees C) excluding LCD panel.

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