FloBoss™ S600 Flow Manager

The FloBoss S600 Flow Manager is a panel-mount flow computer. It is equally capable of either oil or gas environments and is intended for fiscal measurement, custody transfer, batch loading, meter proving, and multi-stream applications.

The FloBoss S600 Flow Manager is designed for use as either as a stand-alone flow computer or as a system component. The intelligent I/O board fits both gas and liquid applications and supports two meter runs and a header. Using the same board, up to six streams and two headers can be configured using orifice, ultrasonic, turbine, positive displacement, and Coriolis flow meter types.

The FloBoss S600 Flow Manager uses multiple processors and has an integral floating point calculation unit which allow very high calculation speeds (e.g. AGA8 in 40 milli-seconds) and which permit high performance of a full loading of six meter runs. A high accuracy ADC auto-calibrates every cycle against a high stability reference.

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The FloBoss S600 Flow Manager offers multiple communication interfaces:

- Two RS232 serial ports for connection to a printer or RTU
- Three RS422/RS485 serial ports (up to 57.6 kBaud) for connection to a Modbus SCADA data network or DCS Supervisory System
- One LAN port for Ethernet 10baseT connectivity (using FTP and TCP/IP protocols)
- One dedicated configuration port for connection to the Config 600 Software.

Configuration can be set through the keypad interface, the Config 600 Lite software interface, or the Config 600 Professional software interface. The Config 600 Lite and Config 600 Professional interfaces allow both download of new or changed configurations and upload of existing configuration from the FloBoss S600. The keypad interface consists of a backlit LCD display, 29-button keypad, and an alarm status LED.

The FloBoss S600 Flow Manager allows the following functions:

- Stream and station totalization
- Batch totalization and correction
- 3-term PID control
- Flow balancing
- Flow scheduling
- Automatic proving sequence
- K factor linearization
- Valve monitor/control
- Sampler control
- Station densitometer
- Station gas chromatograph
- Forward and reverse totals
- Comprehensive Maintenance mode.

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Specifications

I/O CAPABILITY

Analog Inputs: 0 to 5.2VDC or 0 to 22mA, >16 bits.
Analog Outputs: 0 to 21mA, 12 bit minimum.
4-Wire RTD: PT100 (-100 to 200°C/-148 to 392°F).
Digital Input: 30V max optically isolated.
Digital Output: Open Collector, 36V max, 100mA.
Dual Pulse Inputs: DC to 10kHz, ISO 6551 Level A or B.
Pulse Outputs: Open Collector, DC to 100Hz.
Prover Pulse Bus: Differential or Open Collector, DC to 5kHz.
Sphere Switches: Supports 1, 2, or 4 switch mode.
Frequency Input: DC to 10kHz, 3Vpk-pk.

CPU CAPABILITY

50 MHz i80486DX2; 16 or 32MB DRAM;
1 or 2 MB SRAM (Battery Backed); 4 MB Flash;
Form 'C' Watchdog relay; Real-Time Operating System; Windriver VxWorks RTOS.

CALCULATIONS

Gas: ISO 5167, AGA 8, NX 19, SGERG, ISO 6976, AGA 5, AGA 3, AGA 7.
Liquid: API 2540, API 11-2-1, API 11-2-2.
Prover: Compact, Uni-direction, Bi-direction, Master Meter, Dual Chronometry, Up to 4 sphere switch.

POWER REQUIREMENTS

Supply Voltage: 20-32VDC, 24W (nom.).
Protection: 2.5A Anti-surge fuse.
Supply Isolation: Galvanically isolated from unit to earth ground, 50V.
Transducer Outputs: 24VDC, 500 mA; 15VDC, 100mA.

ENVIRONMENTAL

Operating Temperature: 0 to 60°C (32 to 140°F).
Storage Temperature: -40 to 70°C (-40 to 158°F).
Operating Humidity: To 90% non-condensing.

WEIGHT

4.3 kg (9.8 lbs).

DIMENSIONS

Case Depth: 304 mm (12 in.) & 77 mm (2.95 in.) for connectors.
Front Panel: 85 mm W x 270 mm H x 280 mm D (3.35 in. W x 10.63 in. H x 11.02 in. D).

APPROVALS AND COMPLIANCES

Available with European CE Mark.
Approved by CMI (Czech Metrology Institute) and OMH (Hungarian National Office of Measure).
Complies to API Chapter 21 for EFM devices.

The FloBoss S600 Flow Manager supports Orifice, Venturi, V-cone and Annubar measurement, Gas turbine, Gas ultrasonic, Liquid turbine, and Liquid Coriolis (using pulse and/or serial communications) metering types.

A ten level/thirty user, key-code security system ensures that access to computer data and functions may be restricted to the appropriate personnel. Each user is given a unique user name and password, which is logged to the audit trail whenever the operator logs in.

Totals for Maintenance mode can be calculated. Also, period totals for three base times with four periods in each (i.e. 1, 2, 4, 6, 8, hourly, daily, weekly, monthly) allow shared fiscal accounting.

Emerson Process Management

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