SAGE PARAMOUNT™ (400 Series)
INDUSTRIAL THERMAL MASS FLOW METER FOR GASES
WITH BLUETOOTH® AND ETHERNET™ OPTIONS

SAGE PARAMOUNT™ INDUSTRIAL THERMAL MASS FLOW METER FOR GASES

(Includes Free SageCom™ Validation and Configuration Software)

The Sage Paramount™ Industrial Thermal Mass Flow Meter provides state-of-the-art components, a dual-sided, explosion-proof, NEMA 4X enclosure, a fast response to rapid temperature fluctuations, and a terminal arrangement with a 3-way switch for externally or internally isolating the 4-20 mA or for non-isolated, self-powered operation.

SAGECOM™ VALIDATION AND CONFIGURATION SOFTWARE

One of the most compelling features of the Paramount™ is its accompanying free software, SageCom™. The SageCom™ software effortlessly connects the Sage Paramount™ to your PC via a separate mini USB connector (cable supplied) located within the back terminal enclosure. This connector is independent of the normal Modbus communication channel allowing validation or reconfigurability of your Paramount™, even while it's standard Modbus output is connected to a network of additional Paramount™ meters going to the SCADA system.

The innovative features of the new software permit the user to reconfigure the meter (change full scale, change pipe size [4" or larger], modify engineering units, and more). Also, you can change gas constituents in the field, log real-time data, and validate the meter's operation through three different diagnostic steps, including the Sage In-Situ Calibration Verification. When finished, print a Validation Report, complete with time and date stamps, serial number, and other pertinent data (ideal for QC departments, ISO requirements, or auditors). When finished, press the Return button, and the totalizer is restored to its original reading before having run the diagnostics.

BLUETOOTH® COMMUNICATION

Optionally, you can communicate between your laptop with SageCom™ software to the Sage Paramount™ via Bluetooth®. There can be multiple Bluetooth® enabled meters nearby and each meter will connect via Bluetooth® to any of the nearby Paramount™, and each will be assigned a unique com port. Thus you can access any of the nearby Paramount™ flow meters, permitting reconfigurability and validation remotely.

Flow meters can be up to 100 feet from the PC, and the remote communication can be activated by simply typing in their unique com port assignment into SageCom™. Then, any settings such as Full Scale, Pipe Area, Gas Mix, Engineering Units or even Low Flow Cutoff can be changed remotely. Diagnostic checks can also be conducted remotely. Also, port assignments and their flow meters can be identified using the laptop's Bluetooth® Icon on your laptop. For a step-by-step procedure, select https://sagemetering.com/pdf-doc/manuals/bt-quickstartguide.pdf for the BlueTooth® Start Guide, or simply click on the Documents & Downloads tab on the Sage Website to "Product Literature".

Instrumentation, such as gas flow meters are often mounted high up on pipes, and they are difficult to access if configuration changes are required. Our Sage Paramount™ Thermal Mass Flow Meter with the Bluetooth® option allows configuration changes remotely. No longer is it necessary to climb ladders to access a hard-to-reach flow meter in order to push buttons, common on competitive flow meters.

The Bluetooth® option is especially helpful in the Oil and Gas industry. Environmental regulations related to Flare Gas, leaks from inactive wells, or adherence to Carbon Credit protocols, require periodic verification of the flow meter's accuracy. The SageCom™ In-Situ Validation Procedure can be conducted remotely via Bluetooth® to verify that the flow meter hasn't drifted, shifted or become contaminated, since the original NIST traceable factory calibration (assuming the piping has remotely activated upstream and downstream valves to simulate a "No Flow" condition). Thus, the calibration checks can be done by the service technician from the convenience of his truck, rather than trudging through a muddyfield, or dealing with inclement weather. Finally, a Pass-Fail report (with the meter Serial Number, Date, Technician Name, etc.) will be generated by SageCom™ for reporting purposes.

ETHERNET™ COMMUNICATION

Three different Ethernet™ options are now available on the 24 VDC ("DC24") Paramount™ offering even more flexibility to network critical flow data from our flow meters: Ethernet™/IP, Modbus/TCP or BACnet/IP.

RJ45 Connector for optional Ethernet™

Separate communication channel for SageCom™ diagnostic software via supplied cable or optional Bluetooth® for wireless connectivity to multiple flow meters

Scan here for terminal details

With the growing interest in Ethernet™, we are one of the few Thermal Mass Flow Meter manufacturers offering these Ethernet™ protocol options. Furthermore, we make connectivity extremely easy. As shown in the above rear-terminal photo, we provide a convenient Ethernet™ RJ45 connector so users can directly loop their male right-angle Ethernet™ cable through the ¾" port to the RJ45 mating connector *(please refer to the Object Maps on the reverse side of this flyer).*

SPECIFIC BENEFITS OF THE SAGE PARAMOUNT™

- Features in-situ "Field Zero Calibration Check" of sensor's performance – verifies that the sensor is clean, and assures that there is no drift, or shift in the flow meter
- Ethernet™ option available
- Each Paramount™ order includes a free copy of the powerful SageCom™ validation and configuration software
- Wireless Bluetooth® connectivity available between Laptop and Paramount™
- Choice of Div. 1 or Div. 2 (standard) hazardous models[1]
- High contrast photo-emissive OLED display with numerical Flow Rate, Total and Temperature, as well as Graphical Flow Indicator
- Calibration milliwatts (mW) continuously displayed providing ongoing diagnostics
- Features both 1/2" dia. probe as well as optional rugged 3/4" probe and sensor
- Measures velocities as high as 35000 SFPM (e.g., 3100 SCFM in a 4" Pipe)[2]
- Proprietary digital sensor drive circuit provides enhanced signal stability and unaffected by process temperature and pressure changes
- Modbus compliant RS485 RTU communications standard as well as separate USB communication channel
- HART™, BACnet, Ethernet™/IP, or Modbus/TCP
- Fast response to rapid temperature changes
- Isolated 4-20 mA output and pulsed output of Totalized Flow
- Rugged, user-friendly packaging with well-marked and easy terminal access
- Low power dissipation, under 2.5 Watts (e.g. under 100 mA at 24VDC)
- Flow conditioning built into In-Line flow meters (1/2" and up)
- Captive Flow Conditioners for Insertion meter applications, if required

1 *Div. 1: Optional on 115/230 VAC powered or 24 VDC powered meters: Class I, Division 1, Groups B, C, D, T4; Div. 2: Standard on 24 VDC meters (not available on 115/230 VAC meters): Class I, Division 2, Groups B, C, D, T4.*

2 *Contact Sage for higher velocities up to 50,000 SFPM with reduced accuracy (with 3/4" probe and sensor).*

Sage Metering, Inc. / 8 Harris Court / Bldg D / Monterey, CA 93940 / 866-677-SAGE (7243) / 831-242-2030 / Fax 831-655-4965 / www.sagemetering.com

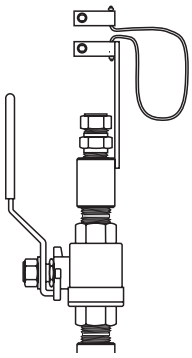
SAGE PARAMOUNT™ STYLES AND SPECIFICATIONS

SAGE PARAMOUNT™ FEATURES AND CONFIGURATIONS

The Sage Paramount™ Thermal Mass Flow Meter features a bright, high contrast, photo-emissive OLED display of Flow Rate, Total and Temperature in a robust, dual-sided NEMA 4X enclosure. The Flow Rate is also displayed graphically in a horizontal bar graph format. The rear compartment is completely separated from the electronics, and has large, easy-to-access, well-marked terminals, for ease of customer wiring. It is powered by 24VDC (optional 115/230VAC).

The Sage Paramount™ Flow Meter is offered in Integral or Remote style (which has lead-length compensation up to 1000 feet, as well as an Explosion Proof Junction Box). Specify any standard probe length or flow body size. It has a 4-20 mA output as well as a pulsed output of Totalized Flow (solid-state transistor drive). In addition, Sage Paramount™ supports full Modbus compliant RS485 RTU communications as well as optional HART™, BACnet, or Ethernet® (MODBUS TCP/IP, Ethernet/IP or BACnet/IP) .

401 SERIES INTEGRAL



Optional SVA05 Isolation Valve Assembly

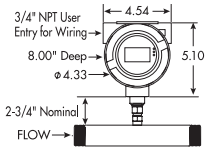
402 SERIES REMOTE

Mounting Hardware (included)

PARAMOUNT 401/402

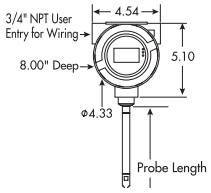
Standard accuracy is +/– 0.5% of Full Scale +/– 1% of reading with a turndown of 100 to 1 and resolution as much as 1000 to 1. Repeatability is 0.2%.

The electronics has an isolated 4 to 20 mA output proportional to Mass Flow Rate as well as pulsed outputs of Totalized Flow (24VDC solid-state transistor drive[1]). In addition, Modbus RS485RTU communications is standard (HART,™ BACnet, Ethernet™/IP or Modbus/TCP optional), along with a USB channel which can connect to SageCom™.



401 In-Line[1,3,4]

Flow Element is In-Line style consisting of a choice of 316 Stainless Steel Schedule 40 Flow Bodies sized from 1/4" x 6" long to 4" x 12" long

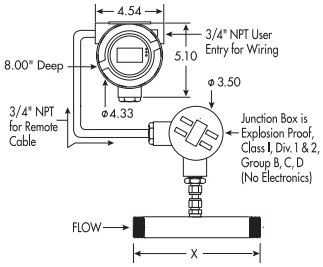


401 Insertion[2,6]

Flow Element is Insertion style, consisting of a 1/2" OD probe (3/4" optional) with lengths from 6" to 36" suitable for insertion into the center of a process pipe

REMOTE STYLE ELECTRONICS

Electronics is Remote style, with rugged windowed dual compartment, explosion-proof, NEMA 4X enclosure with display. The display is a high contrast photo-emissive OLED display, and displays Mass Flow Rate, Totalized Flow and Temperature as well as a graphical representation of Flow Rate in a horizontal bar graph format. In addition, the calibration milliwatts (mW) is continuously displayed, providing ongoing diagnostics. Includes Expl Proof (Class I, Div 1, Groups B, C, D Remote Mounting Hardware.



402 In-Line[1,3,4]

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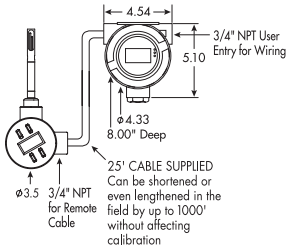

402 Insertion[2,6]

Flow Element is Insertion style, consisting of a 1/2" OD probe (3/4" optional) with lengths up to 36" long (typically 15" long) suitable for insertion into thecenter of a process pipe

BACNET/IP OBJECT MAP

Object Name	Object Type	Instance	Default COV Units	Relinquish Increment	Default
Serial Number	Analog Input	1	no-units	0	N/A
Flow Rate	Analog Input	2	no-units	5	N/A
Temperature	Analog Input	3	°F	1	N/A
RTD Power	Analog Input	4	milliwatts	1	N/A
K Factor	Analog Value	1	no-units	0	1
Filtering	Analog Value	2	no-units	0	0.5
Low Flow Cutoff	Analog Value	3	no-units	0	0
Full Scale	Analog Value	4	no-units	0	1200
Totalizer	Analog Value	5	no-units	0	0

ETHERNET® IP/ MODBUS™ TCP OBJECT MAP

Register Description	OBJECT BASE 0	OBJECT BASE 1
Serial Number	0000	0001
Totalizer Value	0002	0003
K - Factor	0004	0005
Filter	0006	0007
Low Flow Cutoff	0008	0009
Full Scale Flow	0010	0011
Flow Rate	0012	0013
TEMP °F	0014	0015
RTD mWatts	0016	0017

IN-LINE METER DIMENSIONS

Pipe Size x Flow Body Length	
1/4" x 6"	1-1/4" x 10"
3/8" x6"	1-1/2" x 12"
1/2" x 7"	2" x 12"
3/4" x 7"	2-1/2" x 12"
1" x 8"	3" x 12"
	4" x 12"

Scan here for additional products

1 *10 Amp Dry Contact external relay available for Totalized Flow (specify DCR-DC accessory)*

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