



# SageCom™ Validation and Configuration Software

## Get SageCom™ into the Operation and Configuration of Your Sage Thermal Mass Flow Meter

SageCom™ is a new, powerful, yet easy to use software program which gives the user testing, diagnostics, performance verification and local configuration capabilities for our family of Sage Thermal Mass Flow Meters. This new software permits the user to easily perform a variety of diagnostic tests, offering reassurance that the Sage Flow Meter is performing per the original specifications.

### Software Diagnostics

- Verify that the flow meter is within original calibration and that the sensors are clean
- Confirm that the flow meter is measuring flow based on the original factory calibration and that the linear output signal is correct
- Print a Validation Report

### Software Reconfigurability

- Check or change the configuration of the instrument, such as changing Full Scale, pipe size, engineering units or decimal points

### Change Gas Mix in the Field

- Enter an entirely new set of gas mix constituents versus the original calibrated mix, and the meter will automatically correct its readings to the new mix

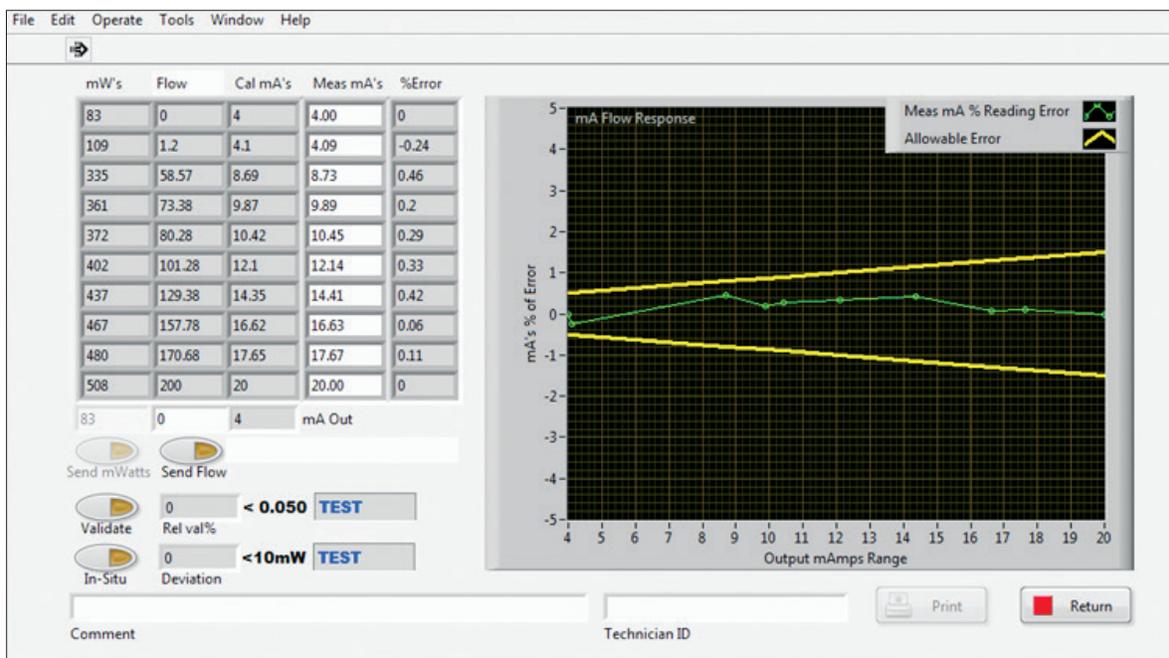
### Log Real-Time Data

- Real-Time tab logs data which is easily exported to Excel

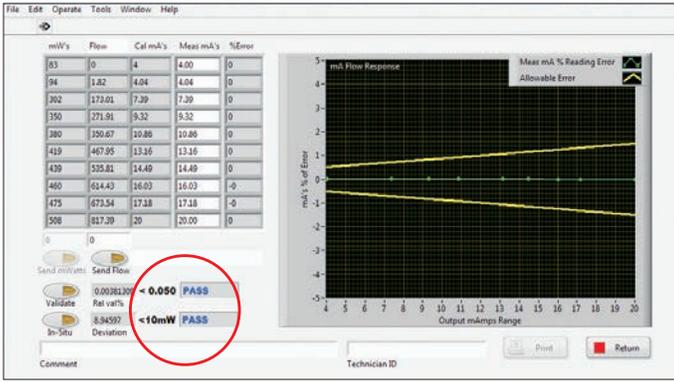
### Calibration and Functional Checks

To confirm that the flow meter is providing the correct mA output signal, the user can enter a flow rate and SageCom™ will command the Sage Flow Meter to generate that flow rate. The display of the Flow Meter will show this data, and the Meter will generate the 4-20 mA output signal that corresponds to this flow. This permits the user to check that the flow meter output signal matches the expected value. Additionally, the user can do a “loop check” by generating any desired 4mA to 20 mA output to verify that their PLC or SCADA system is set up correctly to correspond to Full Scale.

SageCom™ generates a random set of 10 flow points which is tabulated as shown below. This checks the linearization of the flow meter, and also provides a graphical representation. In fact, the user can do an actual measurement using an Ammeter, and if there is any difference in the measured mA, the graph will reflect it.



10 point loop evaluation



**Pass-fail tests**

**Test Performed to Verify Calibration Includes:**

- 1) Power off sensor validation test where **SageCom™** compares the electrical values of the two RTD sensors to ensure that they are within the original specifications.
- 2) In-situ calibration verification under a no flow condition. This proven test verifies that the zero flow signal obtained during the test matches the zero flow signal obtained during calibration under the same operating conditions. When this occurs, the user can be confident that the entire calibration curve of the Sage Flow Meter has not shifted, drifted or changed.

When the flow meter passes both these tests, the user can be assured that the flow meter is performing per the original calibration, and also verifies that the sensors are clean. The test results provide a quantitative value along with a pass/fail.

Once the test is completed, the user can print a validation report as shown below to document the results.

Flow Units: SCFM	Sage SageCom Report	1/22/2016
Total Units: SCF	Meter Serial# 115619	7:24:56 AM
Temp Degrees: F	Sage Prime v2.34	Tag ID#
Test report		
Work performed by: R.P.		

mW's	Flow	Cal mA's	Meas mA's	%Error
77.000	0.000	4.000	4.000	0.000
82.000	6.000	4.020	4.020	0.000
367.000	1256.774	8.020	8.020	-0.000
411.000	1715.476	9.490	9.490	0.000
444.000	2112.929	10.760	10.760	-0.000
485.000	2690.046	12.610	12.610	0.000
510.000	3087.932	13.880	13.880	-0.000
539.000	3588.980	15.480	15.480	0.000
566.000	4102.008	17.130	17.130	0.000
608.000	5000.000	20.000	20.000	0.000

- Min Flow = 0.050
- Max Flow = 50.000
- mW Zero = 80
- mW Max = 607
- Filtering = 0.500
- K Factor = 1.000
- Cal Val = 76.187

\*\*\*\*\* VALIDATION RESULTS \*\*\*\*\*

- Sensor Relative Variance = 0.004% (< 0.050) SCORE = PASS <--

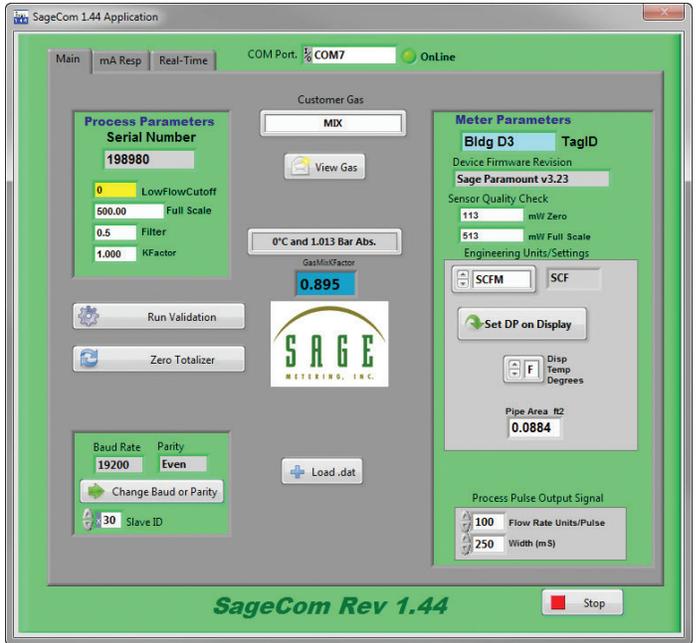
\*\*\*\*\* IN-SITU RESULTS \*\*\*\*\*

- Sensor mW Deviation = 17.797 (< 10.000) INDICATION = FAIL <--
- CONTAMINATION SUSPECTED

**Configuration Changes**

Changes in the process conditions may necessitate changes in the configuration of the Sage Metering flow meter. Such items as different operating range, K factor, pipe size, units of measurement, re-range the Full Scale, can all easily be changed with **SageCom™**.

Context sensitive help screens assist the user in understanding the functionality of the various entries.



All newly purchased Sage flow meters (such as Sage **Prime** or Sage **Paramount**) will be compatible with **SageCom™**. Older models or other model styles (as long as Modbus is activated) will have most of the functionality of new meters. Optionally, Sage offers an upgrade program to older meters to provide full functionality. Contact [service@sagemetering.com](mailto:service@sagemetering.com).

A copy of **SageCom™** is automatically provided (at no charge) with the purchase of any Sage **Paramount** flow meter. Scan below for details on Sage Paramount.



**Scan for Sage Paramount Industrial Thermal Mass Flow Meter**

**NOTE: SageCom™** requires Windows 7 or higher, and the flow meter must be provided with MODBUS communication capabilities.