SAGE PRISM® PORTABLE THERMAL MASS FLOW METER WITH DATA LOGGER

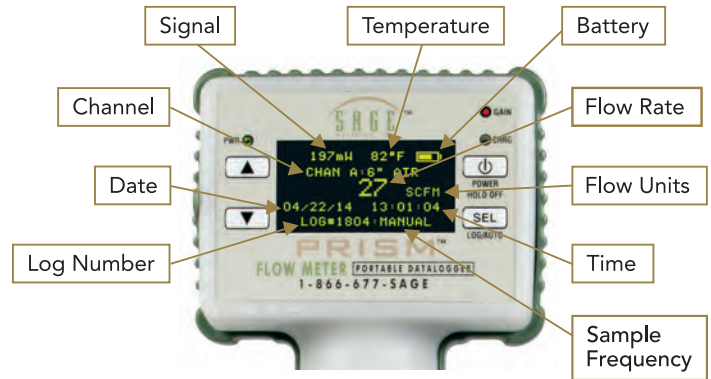*Logs up to 130,000 data points and downloads to PC*

SAGE PRISM® PORTABLE THERMAL MASS FLOW METER

The Sage Prism is a unique, portable meter that measures gas mass flow and has extensive data logging capabilities. The easy to use flow meter offers the ability to periodically measure the mass flow of gas from various locations or perform long-term trend monitoring at a single location. With a storage capacity of up to 130,000 data points the Prism can be configured to capture a data point manually or at scheduled frequencies. To take a reading simply insert the meter's probe through existing ports in pipes 1.5" and larger.

The Prism comes calibrated for Air (AIR), Natural Gas (NG) or Biogas (MIX). Specify any of these three available models. The new Sage Prism Configuration Software (SPCS) provides the ability to configure the instrument for up to 12 different user channels in addition to the four factory defined channels. Using this easy to use, intuitive software, each channel can be configured for different pipe sizes, units of measurement, variations in gas composition, channel name, and installation factors. Once the data is stored in the Prism memory it will be downloaded to a PC using the provided software for analysis and record keeping.

When operating in full automatic mode the Prism will take samples at intervals of five seconds, ten seconds, thirty seconds, one minute, ten minutes, thirty minutes. In manual mode a sample is taken each time the SEL button is pressed. The screen will flash confirming the data point was captured and the Prism is operational. Each data point will include sample number, channel ID, date and time, flow rate and gas temperature.

The Prism comes with carrying case, USB cable, 12 VDC power supply, user manual, STCF05 compression fitting, and SPCS software.

PRISM DISPLAY

The display on the Prism's high contrast photo-emissive graphic is readable even in bright sunlight. The real-time data that is displayed includes:

- Sample log number of the captured data ranging from 1 to 130,000
- Date and time stamp of when the data was taken
- A numeric indication of the flow rate
- A numeric display of the temperature
- A bar graph of the battery strength indicator
- Channel ID name
- mW measurement of the raw signal
- Sample frequency
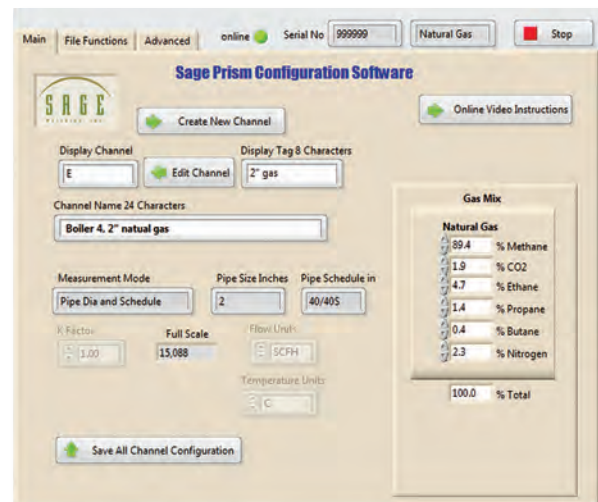
SAGE PRISM CONFIGURATION SOFTWARE

The Sage Prime Configuration Software (SPCS), included with each meter, is intuitive and a user-friendly program which enables the user to configure up to 12 channels for different pipe size, units of measurement, channel name, installation factor and variations in the gas composition from the calibration gas. In addition there are four factory configured channels.

After completion of acquiring data, all logged data is downloaded from the Prism to the computer using SPCS software. The data is saved as a CSV (Comma Separated Values) file and as a spreadsheet (.xls format) for future analysis and storage.

SPCS also permits the user to view previously saved data in text or graphical mode.

The saved data includes all configuration data entered into SPCS along with the logged data and instrument serial number for obtaining complete historical information for the conducted test.

SPCS MAIN SCREEN FOR PRISM USED FOR NATURAL GAS

Sage Metering, Inc. / 8 Harris Court / Bldg D-1 / Monterey, CA 93940 / 866-677-SAGE (7243) / 831-242-2030 / Fax 831-655-4965 / www.sagemetering.com

SAGE PRISM STYLES AND SPECIFICATIONS

GAS COMPOSITION VARIATIONS

Sage Metering recognizes that the gas composition of biogas and natural gas can vary and that these variations can affect the flow measurement. Sage has developed methods for accurately modeling the effect of gas composition variations. These relationships are incorporated into the SPCS. Using SPCS, the user can enter the gas composition of the bio gas (% CO_2 and % CH_4) or the natural gas (% C1 - C4, % carbon dioxide, % nitrogen); SPCS will apply adjustment factors to provide accurate flow measurements for gas compositions other than the specific calibration gas.

SPECIFICATIONS

Accuracy	+/- 0.5% of Full Scale +/- 1% of Reading for each of the original four factory defined channels. (Customer generated channels may have lower accuracy)
Turndown	100:1
Resolution	1000:1
Repeatability	0.2% of reading
Gas Temperature	–40° to 200°F (–40° to 93°C)
Ambient Temperature	–4° to 125°F (–20° to 52°C)
Pressure Rating	500 psig
Probe Construction	316 stainless steel
Cable Length	Two feet coiled, 10 feet extended
Power	Rechargeable lithium-ion battery (10 hour life) 100 – 240 VAC to 12 VDC power adaptor
Calibrations	NIST Traceable
Response Time	1 second time constant
Units of Measurement	SCFM, SCFH, NCMH, SFPM, NMPS, °F, °C

DIMENSIONS

Standard probe length of 18".

BATTERY OPERATION

The Prism will operate for up to ten hours with a fully charged battery. Longer continuous operation, such as performing a long term audit, can be obtained by operating the unit with the provided AC power adaptor plugged into the mini-USB port. This connection is also used for transferring data from the Prism to a computer.

CALIBRATION

Each Prism is calibrated on Sage Metering's NIST traceable flow calibration facility for air, bio gas (50% methane, 50% carbon dioxide) or natural gas using the specific gas.

PROBE WITH COILED CABLE CONNECTION

The Prism's probe is supplied with a flexible cable.

CALIBRATION VERIFICATION

Every Prism has a simple way to verify that the instrument remains in calibration. During the calibration a no-flow data point in ambient air is obtained; this value is recorded on the certificate as well as printed on the instrument. To verify the calibration simply recreate a no-flow condition in air and compare the mW reading shown on the display with the mW recorded during calibration. See the User Manual for more information on this test.

MODEL SCD PROBE WITH COILED CABLE AND DISPLAY MODULE

FLOW →

AVAILABLE MODELS

MODEL	DESCRIPTION	MAX VELOCITY	CHANNEL A Velocity	CHANNEL B 2" Pipe	CHANNEL C 3" Pipe	CHANNEL D 4" Pipe	CHANNEL E–P
SCD-AIR	AIR FLOW	25000 SFPM	25000 SFPM	500 SCFM	1250 SCFM	2000 SCFM	CONFIGURABLE BY USER
SCD-NG	NATURAL GAS	10000 SFPM	10000 SFPM	250 SCFM	500 SCFM	900 SCFM	CONFIGURABLE BY USER
SCD-MIX	DIGESTER, LFG or BIO GAS	10000 SFPM	10000 SFPM	250 SCFM	500 SCFM	900 SCFM	CONFIGURABLE BY USER

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