



Siargo Ltd.

Model FS4300 Series

SIARGO MEMS FLOW SENSOR PRODUCTS

MEMS Mass Flow Sensors

(VA.2)

MEMS Mass Flow Sensor

Introduction

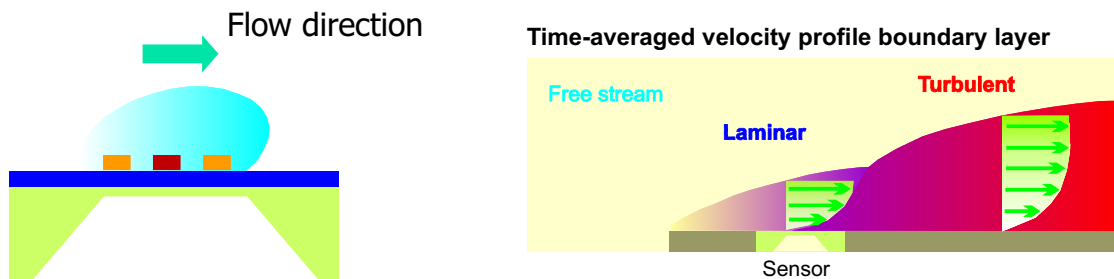
FS4300 series mass flow sensors are specially designed for metering gases with the presence of high humidity over 75%RH, or even with the presence of water vapors. The sensors are made with Siargo's patented low power MEMS flow sensing technology with integrated heat circuitry that ensures reliability and performance. The sensors can be configured into other packages upon requests.

The sensors currently offer a linearized analog outputs. A digital interface is reserved for communications when required. Typical applications include respiratory measurement, fermentation monitor, and many other industrial process metering.



Working Principle and Configuration

The MEMS calorimetric sensor is installed at the flow channel wall forming a plate that serves as the additional flow condition from the boundary layer configuration resulting in a laminar flow. The mass flow measurement is established as the fluid carries heat away from the heater causing the redistribution of the temperature field. Accurate flow rate is obtained by calibration with the standard fluid at the preset conditions.

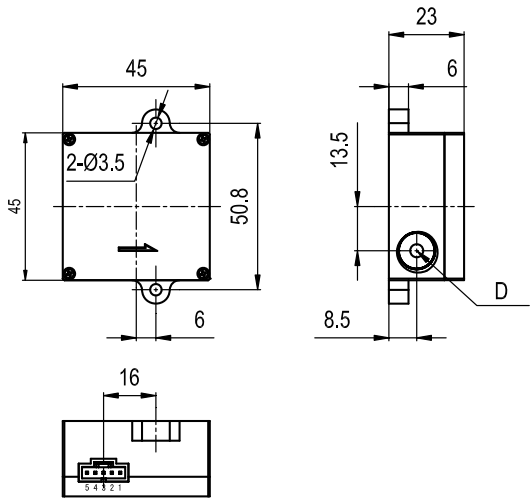


Specifications

Model	FS4301	FS4303	FS4308	
DN	1	3	8	mm
Flow range	200sccm	2SLPM	10SLPM	
Max pressure rating		0.6		MPa
Temperature		-10~55		°C
Power supply		8~24		Vdc
Output*	Linear analog, 0.5~4.5Vdc Flow switch output: 0/5Vdc			
Accuracy	±(2.0+0.5FS)			%
Calibration	Air, 20°C, 101.325kPa			
Connection	NPT 1/8	NPT 1/8	NPT 1/4	

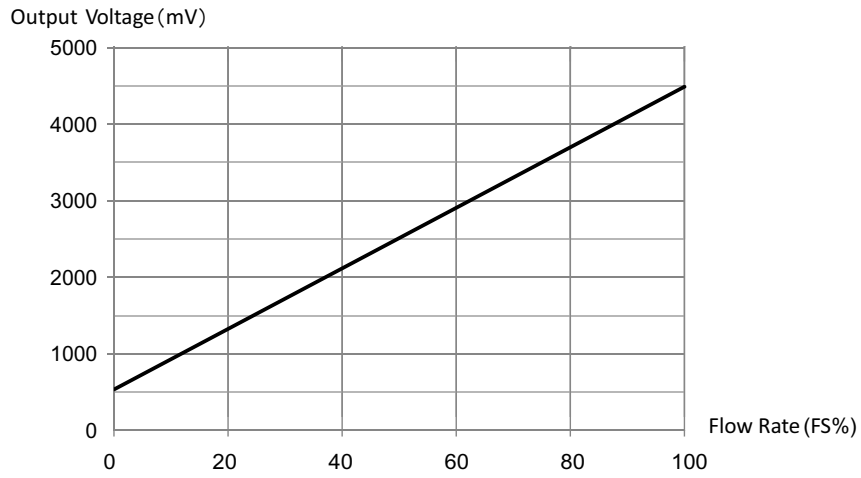
*The 5Vdc output indicate a flow larger than 0.01Qmax, otherwise it is null.

Dimensions

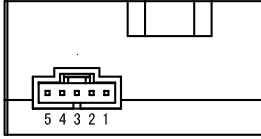


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FS4301	NPT 1/8
FS4303	NPT 1/8
FS4308	NPT 1/4

Typical Output



Electrical connection



- 1 Blue N.C.
- 2 Green Analog Output
- 3 Red Power Supply
- 4 Black GND
- 5 Yellow 0/5Vdc flow switch

Safety and Maintenance

Safety Precautions

The sensors cannot be used for gas metrology of fluoride or fluoride containing gases. For updates of the product certification information, please contact manufacturer or visit www.Siargo.com. Use for other gases such as extreme corrosive and toxic may cause the product malfunctioning or even severe damages. The product sealing is ensured to work under working pressure of 0.6 MPa and is leakage proof before the shipment. But cautions and further leakage test are important at installation as well since any leakage could cause severe safety issue. The power supply for this product is a lithium battery, all precautions and measures for electrical voltage handling must apply.

Attention: any alternation and/or improper use of the product without the permission of the manufacturer can cause unpredicted damages and even injuries or other severe situations. Siargo or any of its employees, subsidiaries shall not be hold and indemnified against such consequences due to such circumstances via improper use of the product.

Maintenance

Attention: without prior permission of the manufacturer, please do not attempt to alter any parts of the product as it may cause unrecoverable damages. If there are questions or doubts, please contact manufacturer immediately before further actions.

All maintenance of the sensor should be performed by trained and certified personnel by Siargo.

For further information, please contact the manufacturer:

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