



Product Features

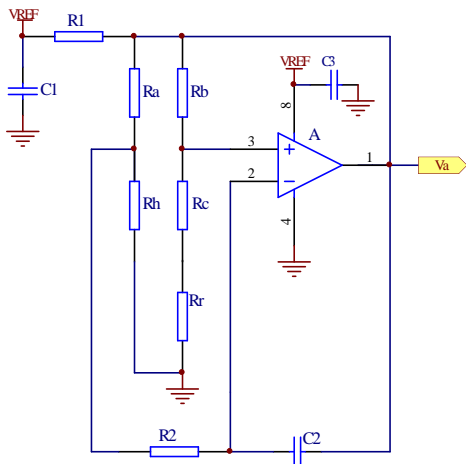
- ◆ The measurement range is 0-10m/s
- ◆ Response time less than 20ms
- ◆ Mini design, easy to install
- ◆ High sensitivity
- ◆ Measurable in both directions
- ◆ The connection method can be customized according to customer needs

Brief Introduction

The FS7002 Mass Flow/Blockage Sensor utilizes our proprietary MEMS flow sensing chip, designed for clean, dry gases in general applications. Its innovative packaging technology enables precise flow measurement across various ranges within the same pipe diameter. Manufactured through mass production, it delivers high reliability, superior performance, and cost-effectiveness.

The sensor is designed for rapid measurement of flow rate changes and is suitable for a variety of equipment, such as LCD projector heat dissipation system, air freshener, various instruments, ventilation ducts or fan motors, etc., which can timely feedback the operation of the heat dissipation system filter and prevent abnormal conditions caused by blockage.

Figure 1, Hot Head Control Circuit

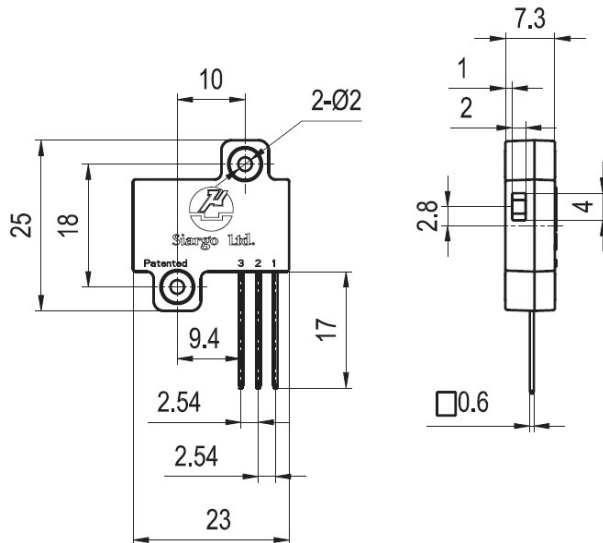


Performance Index

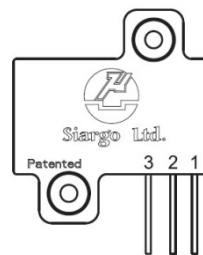
model	FS7002-A	FS7002-B	FS7002-C	unit
measuring range	0~2	0~5	0~10	m/sec
repeatability	±4%FS	±3%FS	±2%FS	
working temperature	-10~+70			
storage temperature	-20~+80			
maximum working pressure	50			kPa
Humidity at work	<95			%RH
working power supply	5Vdc ± 1%			
response time	20			ms
Mode of output	Nonlinear, analog voltage 0~3.3Vdc			
Calibration method	Air, 20°C, 101.325kPa			
insulation resistance	At 500Vdc, the insulation resistance between the housing and the pin reaches 20MΩ			

Note: The sensor needs to be preheated for one minute before use;

installation size



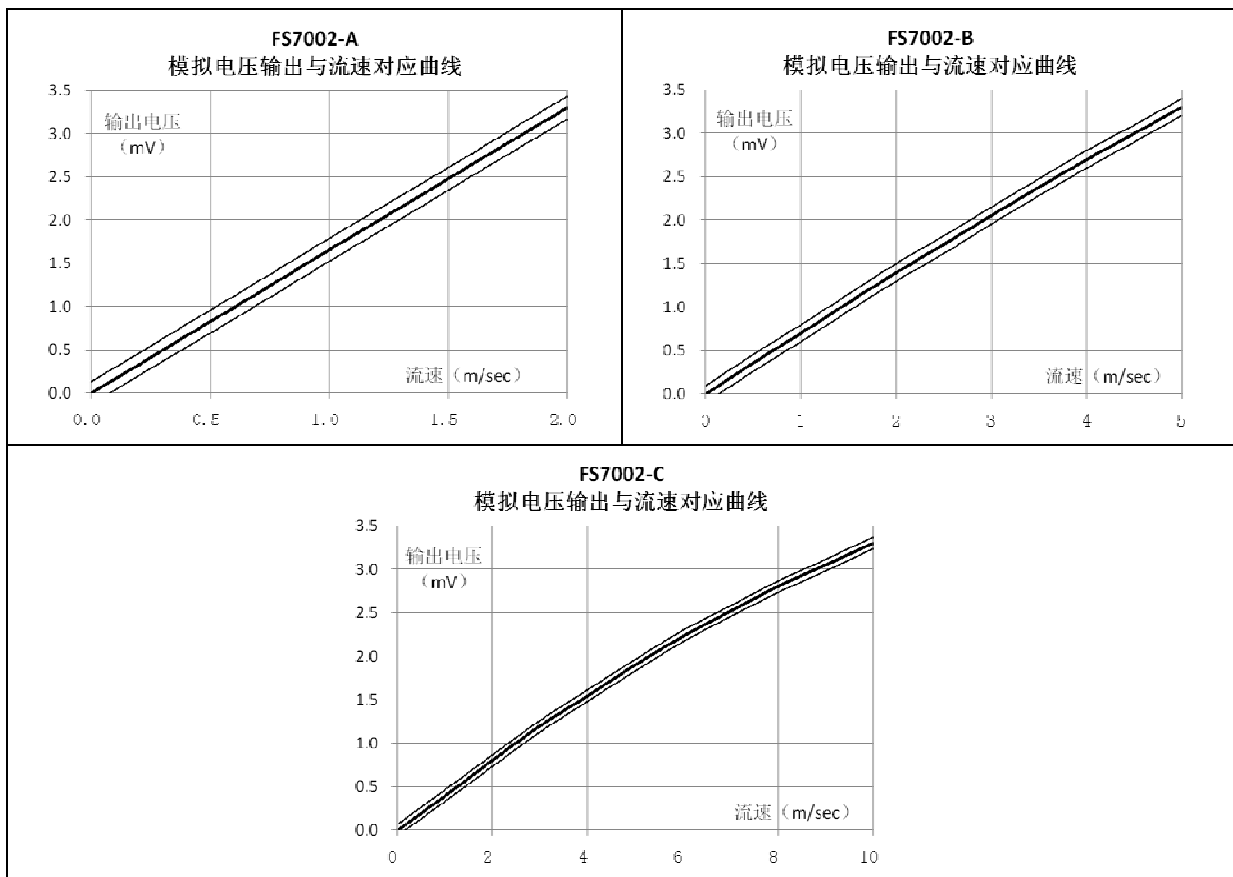
Electrical interface



- 1 --- VCC
- 2 --- Vout
- 3 --- GND

Analog voltage output and typical output curve

Flow rate (m/sec)	FS7002-A			Flow rate (m/sec)	FS7002-B			Flow rate (m/sec)	FS7002-C		
	typical case	minimum	maximum		typical case	minimum	maximum		typical case	minimum	maximum
0.0	0.000	0.000	0.132	0.0	0.000	0.000	0.099	0	0.000	0.000	0.066
0.2	0.330	0.198	0.462	0.5	0.360	0.261	0.459	1	0.400	0.334	0.466
0.4	0.660	0.528	0.792	1.0	0.700	0.601	0.799	2	0.800	0.734	0.866
0.6	0.990	0.858	1.122	1.5	1.050	0.951	1.149	3	1.200	1.134	1.266
0.8	1.320	1.188	1.452	2.0	1.400	1.301	1.499	4	1.550	1.484	1.616
1.0	1.650	1.518	1.782	2.5	1.720	1.621	1.819	5	1.900	1.834	1.966
1.2	1.980	1.848	2.112	3.0	2.050	1.951	2.149	6	2.230	2.164	2.296
1.4	2.310	2.178	2.442	3.5	2.380	2.281	2.479	7	2.520	2.454	2.586
1.6	2.640	2.508	2.772	4.0	2.700	2.601	2.799	8	2.800	2.734	2.866
1.8	2.970	2.838	3.102	4.5	3.000	2.901	3.099	9	3.050	2.984	3.116
2.0	3.300	3.168	3.432	5.0	3.300	3.201	3.399	10	3.300	3.234	3.366



Application Notes

1. The sensor was measured at 20°C, 101.325kPa in a long straight pipe section with rectifier of diameter 80mm. The performance may vary depending on different conditions, mainly depending on the specific application environment.
2. If the application is in an open environment, the sensor is best used as a flow switch or to detect local flow velocity.
3. When no temperature compensation is made in the circuit, temperature changes may lead to a deterioration in the accuracy of the sensor; in the worst case, the error may reach 0.3%/°C.
4. Pressure changes do not usually affect the performance of the sensor.
5. As long as no condensation is produced, humidity changes will not affect the performance of the sensor.

深圳市杰晟兴电子有限公司 JM Components Limited

地址: 深圳市福田区中航路7号鼎诚国际大厦南座2007室
 手机: 13662266995 马少良 电话: 0755-83951311
 官网: cn-sensor.com

邮编: 518031
 传真: 0755-83952401
 电邮: jackson@jmcomponents.com