



Principle Characteristics

FM342 gas mass flow sensor is manufactured using MEMS flow sensing chip, suitable for various uses of clean, relatively dry gas flow measurement and process control, unique packaging technology enables the product to meet different range of flow measurement, ensuring high sensitivity, high reliability, high stability and low cost.

FM342 is based on a MEMS flow sensing unit and a high-precision digital processing and calibration circuit (MCU). Integrated Delta-Sigma /D converter, logic circuit with internal calibration function and MCU processor together ensure real-time and effective acquisition of sensor signals, accurate flow signals, and internal compensation algorithm processing, so that no external calibration compensation, to ensure high precision flow output. Friendly digital output communication form, users can be very convenient to get communication to get the corresponding data information; Products have a wide range of applications.

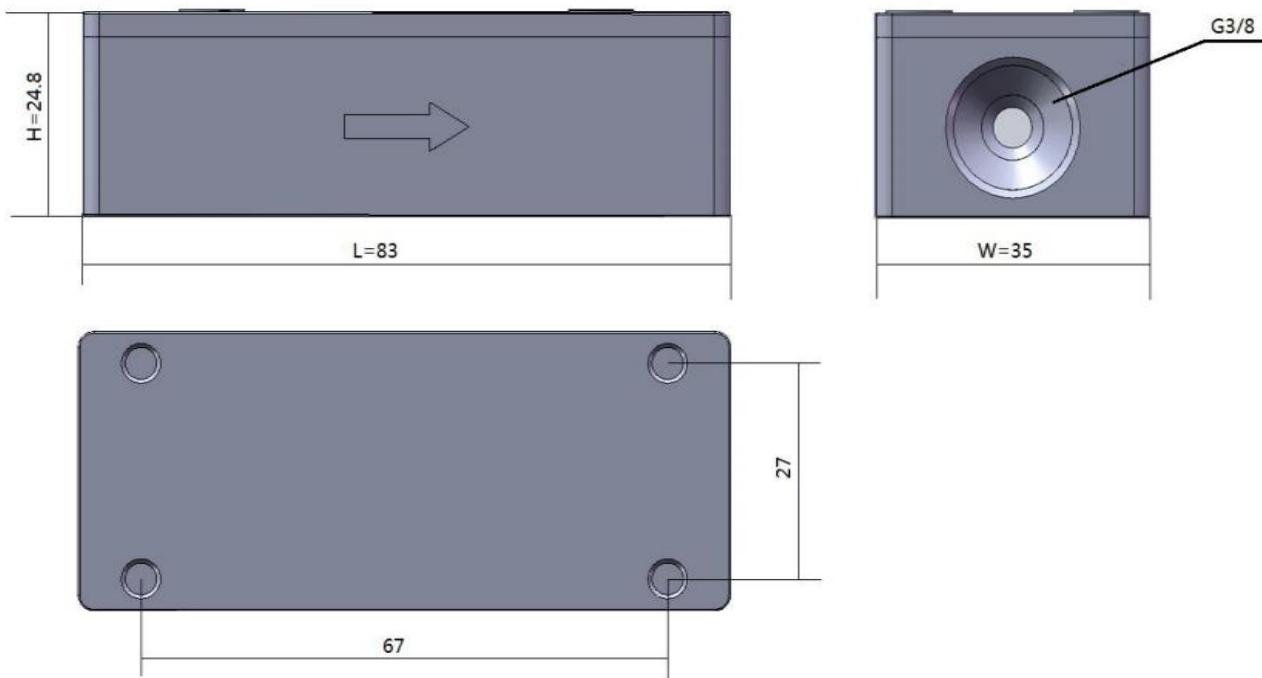
- High accuracy (1.5% F.S accuracy)
- Linear output and no temperature compensation
- Maintain long-term stability with minimal zero drift
- Fast response time (20 ms response time)
- Wide flow rate range 0-60m/s, impact resistance of 100g
- Solid state sensor core (no surface cavity ring fragile film), resistant to clogging and pressure shock

- Analog output (1-5 V) (can provide digital RS485 communication output)
- Suitable for relatively humid gas measurement
- Operating temperature: -25°C to 85°C,
Storage temperature: -40°C to 90°C,
Humidity: 0 to 100% RH
- Sensor can withstand condensation

Performance parameter table

Function Item	FM 342 gas mass flowmeter		
	Performance Parameters	unit	note
flow range	20/50/100/200	slpm	Customizable
Power supply power	8~24VDC,50mA	VDC	optional
precision	±1.5	%	FS
Response time	20	ms	optional
Maximum pressure	0.8	M Pa	Customizable
Form of communication	I2C		Customizable
Form of output	Analog output 1-5	V	
The temperature	medium temperature(-10~65), Ambient temperature(-25~85)	°C	
interface	G3/8		可定制
Class of protection	IP40		
Form of calibration	air, 0°C , 101.325kPa		
Overall material	Stainless steel (custom aluminum alloy)		

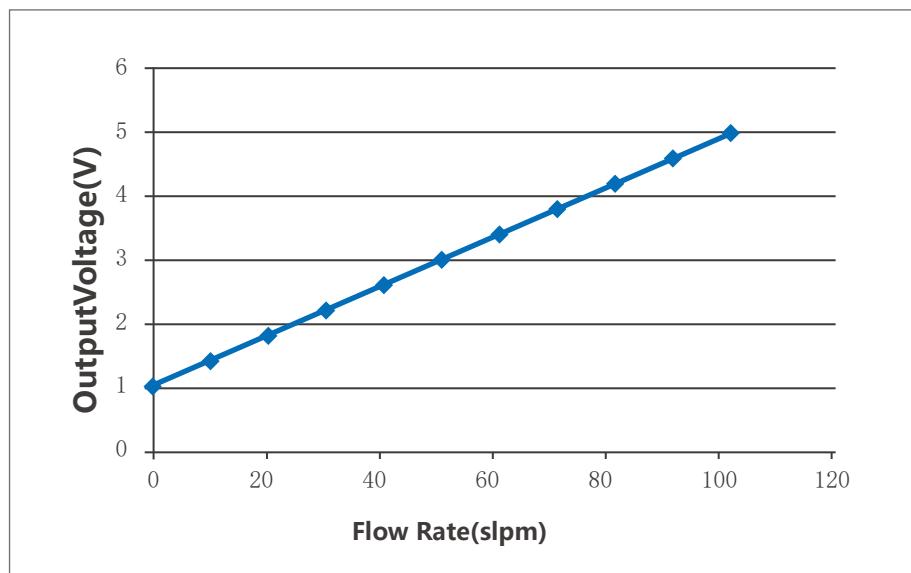
Size drawing (mm)



Linear output

Flow rate = $[(V_{OUT}-1\text{ V}) / 4\text{ V}] \times \text{full scale flow rate}$

For example: FM342 V has a full scale flow rate of 100slpm. When the output voltage is 2.5V, the instantaneous flow rate is $[(2.5\text{V}-1\text{V}) / 4\text{V} \times 100\text{slpm}] = 37.5\text{slpm}$



Output lead definition

Leading foot definition:

- 1 SCL(I2C)
- 2 GND(negative power input)
- 3 Vin(positive power input)
- 4 Vout(analog voltage output)
- 5 SDA(I2C)



Note: In pin definition, I2C communication (SCL and SDA);
 The Vin is an external power supply input (8 to 24VDC).
 Vout is the analog voltage 1-5V output model;
 GND is a common ground (power ground).
 Color Indicates the color of the cable.

Selection table

FM342-	S	100	2C	0	0	detailed
FM342-						FM342 Gas mass flowmeter
	S					Material: Stainless steel
	L					Material: Aluminum alloy
	-					Maximum flow L/min: For example, 100=100L/min Can be customized according to actual requirements.
		2C				Signal output: I2 C communication
		V15				Signal output: analog (1-5V)
		A				Signal output: 4-20mA (three-wire system)
			0			Gaseous medium: Air (air)
			1			Gaseous medium: N2 (nitrogen)
			2			Gaseous medium: CO2 (carbon dioxide)
			3			Gas medium: O2 (oxygen)
			4			Gaseous medium: He (helium)
			5			Gaseous medium: H2 (hydrogen)
			6			Gas medium: Ar (Argon)
				0		None Display
				1		Integrated display module

Note:

1. The default unit of maximum flow rate not minimum flow rate is L/min, which is the flow rate under the standard state (101.325kPa 20°C).
2. Because there is a gas coefficient factor between different gases, it is necessary to inform the technical personnel of the manufacturer in advance if there is a large coefficient relationship in the selection of non-air Fixed flow rate and corresponding product model;