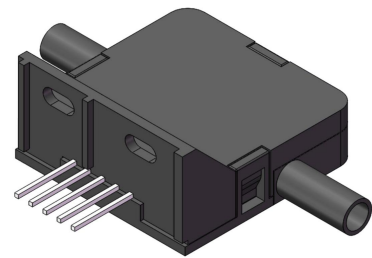


## XGZF3000 AIR FLOW SENSOR

### FEATURES

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- High sensitivity, low flow measurement
- Internal temperature compensation calibration
- High accuracy, high resolution
- Reliable quality, stable performance, low cost
- The latest generation of MEMS chip technology
- Linear output (Analog or Digital)
- Fast response time
- Resistant to condensated water



### APPLICATIONS

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- Portbale Ventilator, Household Oxygen Generator
- CPAP Device
- Anesthesia for childbirth
- Critical care equipment
- HVAC
- Air purifier
- Environmental climate monitoring
- Fuel cell control and
- More applications for air flow control and measurement

### INTRODUCTION

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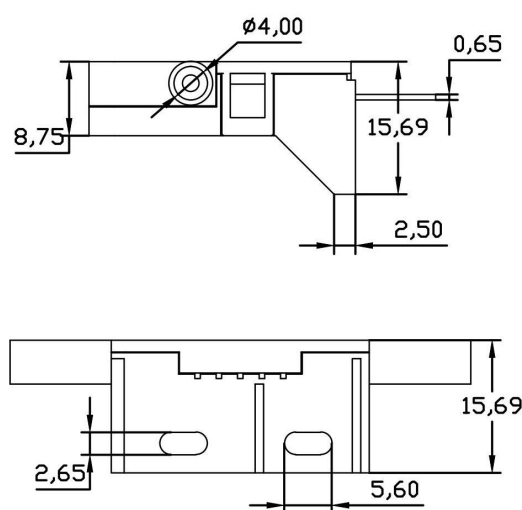
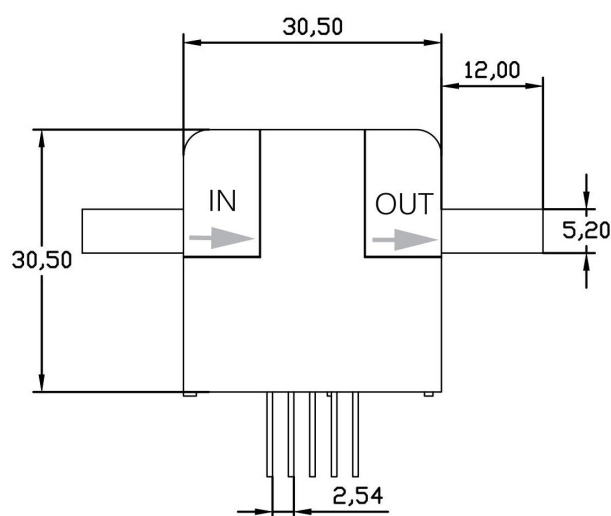
The XGZF3000 series adopts micro-electromechanical system (MEMS) flow sensor chip technology and thermodynamic principles to measure the flow of gaseous media in the flow channel. Reasonable flow channel design to make the pressures stable; it provides high-precision, fast response processing circuit, as well as MEMS integrated circuit + special calibration circuit that can process the internal temperature compensation and calibration. It can accurately obtain accurate, real-time and effective flow signals to ensure the high stability and reliability of the product.

## ELECTRONIC PERFORMANCE

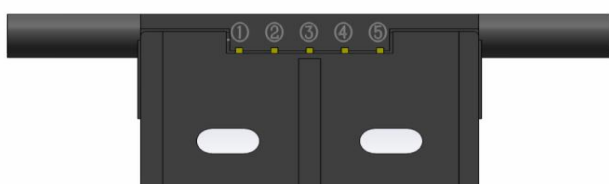
Unless otherwise specified, measurements were taken with a supply voltage of (8~24)VDC (Default: 12 VDC) Vdc at a temperature of 25±1°C and humidity ranging from 40% ~60% RH

Specifications	Min.	Typ.	Max	Unit	Note
Analog output	0.5	-	4.5	V	3000SCCM output: 1-5V
Digital output	6554	-	57015		
Accuracy	-	±1.5	-	%FS	
Offset drift	-	0.02	-	%FS	
Resolution	-	0.1	-	%FS	
Range	200/300/400/500/600/1000/1500/2000/3000			SCCM	
FS output		4.5		V	
Offset output		0.5		V	
Working voltage	8	12	24	V	
Working pressure	0.2	-	0.35	Mpa	
Working temp.	-25	-	85	°C	
Electronic Interface	2.54mm PIN				
Materials	PA66+GF30			°C	

## DIMENSION (Unit:mm)



## PIN CONNECTION&DEFINITION



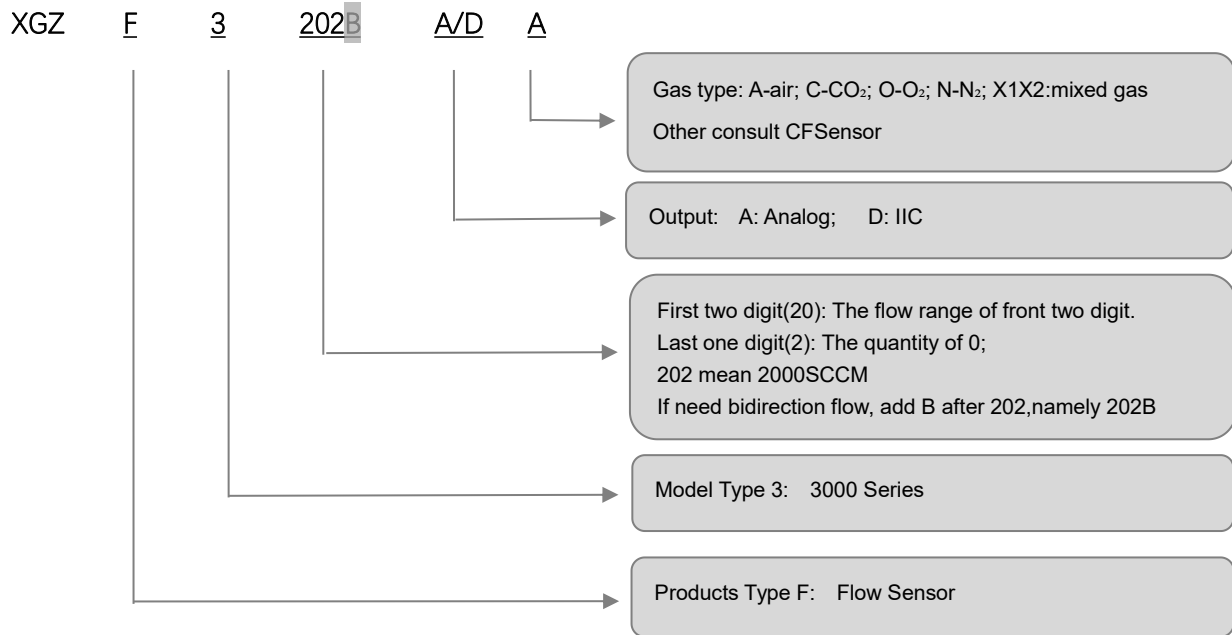
2.54mm 5 Pin Dubond Latch Connector

Output PIN Definition 1					
	1	2	3	4	5
Analog	NC	NC	GND	VIN	Vout
I2C	SCL	SDA	GND	VIN	NC

Output PIN Definition 2					
	1	2	3	4	5
Analog	NC	Vout	VIN	GND	NC
I2C	SDA	NC	VIN	GND	SCL

## ORDER GUIDE



Test Condition: VIN=12±0.01VDC, Ta=25°C; RH: 40%<RH<60% Max. Working Temp. Range: -25°C to +85°C				
Analog output P/N	I2C Interface output P/N	Range	Unit	Default PIN Definition
XGZF3022A	XGZF3022D	0-200	SCCM	Output PIN Definition 1
XGZF3032A	XGZF3032D	0-300	SCCM	Output PIN Definition 1
XGZF3042A	XGZF3042D	0-400	SCCM	Output PIN Definition 1
XGZF3052A	XGZF3052D	0-500	SCCM	Output PIN Definition 1
XGZF3062A	XGZF3062D	0-600	SCCM	Output PIN Definition 1
XGZF3102A	XGZF3102D	0-1000	SCCM	Output PIN Definition 1
XGZF3152A	XGZF3152D	0-1500	SCCM	Output PIN Definition 1
XGZF3202A	XGZF3202D	0-2000	SCCM	Output PIN Definition 1
XGZF3302A	XGZF3302D	0-3000	SCCM	Output PIN Definition 2
Remark	Available for customized flow range.			

### 1. Unidirectional airflow calculation formula(Analog output):

Flow rate=[(Vout -0.5V)/4 V]×full scale flow rate. For example:

XGZF3202-A-A, when reading the output voltage 2.5V,The instantaneous flow rate is [(2.5V-0.5V)/4V×2000SCCM] =1000 SCCM

### 2. Bidirectional airflow calculation formula(Analog output):

Forward flow=[(Vout -2.5V)/2 V]×full scale flow;

Reverse flow=[(2.5 V- Vout)/2 V]×full scale flow

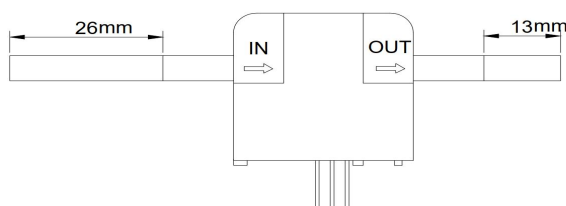
### 3. Unidirectional airflow calculation formula (I2C interface):

Flow rate=[(Vout -6554) /50461]×full scale flow rate. For example:

XGZF3202-D-A, when reading the output value is 10000,

The instantaneous flow rate is [(10000-6554)/50461×2000SCCM] =136.6 SCCM

## INSTALLATION NOTES



For XGZF3000 series installation, as above show, the recommended pipe length is the first 5 and 2.5, that is, the inlet pipe length is 5 times the product diameter, and the outlet pipe length is 2.5 times the diameter; the product is installed concentrically, which is reliable and firm; the airflow direction is consistent with the product indication direction; The pin connection needs to correspond to the product pin definition to ensure correct operation after power on.

## OPERATION NOTES

1. The product can be used normally only when it is suitable for the environment defined in this specification
2. Pay attention to the gas flow direction sign during installation, and the connection and leak detection should be carried out in accordance with the corresponding regulations.
3. During the use of the product, it is prohibited to install pipelines, clean pipelines or other improper operations that introduce a large amount of impurities at the same time; it may cause damage to the product.
4. If the gas medium contains water vapor and impurities, it may cause the sensor's sensitivity characteristics to decrease or damage.
5. Pay attention to the positive and negative poles of the power supply. If the positive and negative poles are connected reversely, the internal circuit of the sensor may be burned out and the normal use of the product will be affected.

### 【 SAFETY NOTES 】

Using these sensors products may malfunction due to external interference and surges, therefore, please confirm the performance and quality in actual use. Just in case, please make a safety design on the device (fuse, circuit breaker, such as the installation of protection circuits, multiple devices, etc.), so it would not harm life, body, property, etc even a malfunction occurs.

To prevent injuries and accidents, please be sure to observe the following items:

- The driving current and voltage should be used below the rated value.
- Please follow the terminal connection diagram for wiring. Especially for the reverse connection of the power supply, it will cause an accident due to circuit damage such as heat, smoke, fire, etc.
- In order to ensure safety, especially for important uses, please be sure to consider double safety circuit configuration.
- Do not apply flow above the maximum applied flow. In addition, please be careful not to mix foreign matter into the flow medium. Otherwise, the sensor will be discarded, or cause an accident.
- Be careful when fixing the product and connecting the gas inlet. Otherwise, accidents may occur due to sensor scattering and the blowing out of the media.
- Because the sensor PIN is sharp, please be careful not to hurt your body when using it.

## 【 WARRANTY 】

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