

## 压差传感器 GPF/DPF Differential Pressure Sensor

### 产品介绍 Product Description

DPF/GPF压差传感器是基于MEMS技术而设计的一种测量物体两侧压力差的传感器。

DPF/GPF differential pressure sensor is a kind of sensor designed based on MEMS technology to measure the pressure difference between two sides of the object.



DPF/GPF压差传感器  
DPF/GPF Differential Pressure Sensor

### 产品特征及优势 Feature and benefits

- ◆ 工作温度范围广，为-40-140℃，并具有全温区补偿。  
The working temperature range is wide, from - 40 °C to 140 °C, with full temperature compensation.
- ◆ 含氟凝胶灌封保护，适应尾气恶劣的工作环境。  
Fluorinated gel encapsulation protection to adapt to poor exhaust environment.
- ◆ 优异的过反压保护能力，反压-24V，过压 28V。  
Excellent over and back pressure protection, back pressure - 24 V, over voltage 28 v.
- ◆ 外观和客户接口可以与森萨塔产品兼容。  
Appearance and customer interface can be compatible with Sensata products.
- ◆ 电路单元利用 SMT 技术贴装。  
SMT for EMA fabrication process.
- ◆ 根据客户要求，多种量程可定制。  
According to customer requirements, a variety of ranges can be customized.

### 产品作用 Application

压差传感器输出尾气系统中颗粒捕集器两端的压力差信号，供ECU选择合适的颗粒捕集器重生时刻，进行尾气排放管理，最多能减少90%的废气颗粒物。

The differential pressure sensor outputs the differential pressure signal at both ends of the particulate filter in the exhaust system for ECU to select the appropriate regeneration time of the particulate filter for exhaust emission management, which can reduce the particulate matter by up to 90%.

### 操作 Operation

#### ◆ 基本原理Basic principle:

压差传感器压力敏感单元受到颗粒捕集器两端压力的变化，导致惠斯通电桥的压电阻阻值变化，转换成电压信号，并由信号调理电路进行信号放大，补偿，将压力差信号送至ECU，ECU根据压力差判断捕集器中颗粒的积聚程度，决定再生触发时刻。

The pressure sensitive unit of the pressure difference sensor is affected by the pressure change at both ends of the particulate trap, resulting in the change of the piezoresistance value of the Wheatstone bridge, which is converted into a voltage signal. The signal is amplified and compensated by the signal conditioning circuit, and the pressure difference signal is sent to the ECU. The ECU judges the accumulation degree of particles in the trap according to the pressure difference, and determines the regeneration trigger time.

#### ◆ 连接选项 Connection options:

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根据客户选择定制连接系统。

Customized to customer choice of connection system.

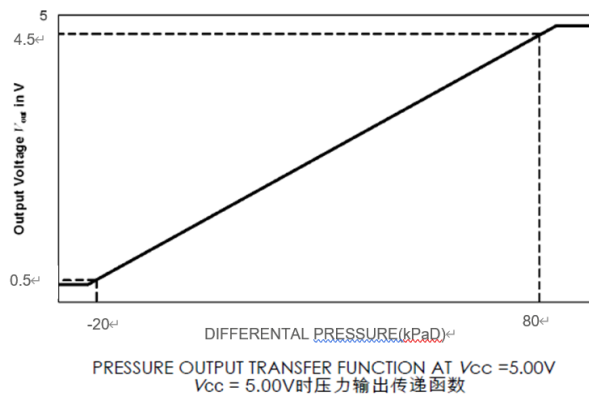
### ◆ 包装选项 Packaging Options:

可提供定制包装以满足任何需要，请联系KESENS技术部了解详情。

Custom packaging can be provided to meet any need, please contact KESENS Engineering for details.

### 技术参数 Functional Characteristics

参数 PARAMETER	符号 NOTE	最小值 MIN.	额定值 NOM.	最大值 MAX.	单位 UNITS	备注 COMMENT
工作温度 TEMPERATURE RANGE	T	-40		140	°C	
压力测量范围 PRESSURE RANGE	P	-20		80	kPa	可定制 Customizable
电源电压 SUPPLY VOLTAGE	Vcc	4.5	5	5.5	V	
电源电流 SUPPLY CURRENT	Icc		2.4	10	Ma	
负载电阻 LOAD RESISTANCE	RL	1			kΩ	
额定输出电压 NOMINAL OUTPUT	Vout	0.5		4.5	V	可定制 Customizable
上限钳位电压 UPPER CLAMPING LEVEL	VCL-HI		4.7		V	可定制 Customizable
下限钳位电压 LOWER CLAMPING LEVEL	VCL-LO		0.3		V	可定制 Customizable
输出压力精度 OUTOUT PRESSURE ACCURACY	Err	-1.5		1.5	kPa	@0°C~80°C
		-2.5		2.5	kPa	@-40~140°C
压力响应时间 PRESSURE RESPONSE TIME	T		2		ms	



可根据需要定制不同量程及电气和环境规范的产品，详情请联系KESENS研发部。

Products with different ranges and electrical and environmental specifications can be customized according to needs. Please contact KESENS design department for details.