

## 燃油蒸汽压力传感器 EVAP Pressure Sensor

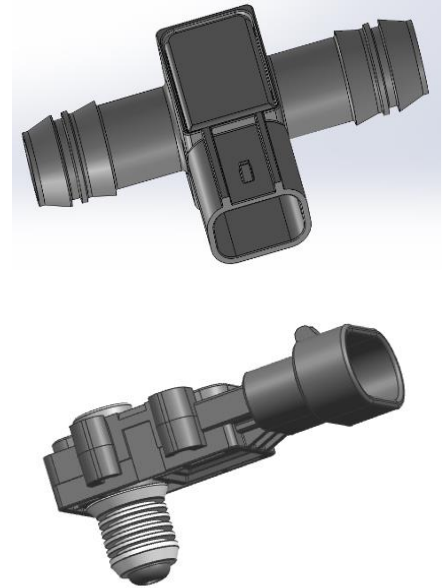
### 产品介绍 Product Description

EVAP燃油蒸汽压力传感器是基于MEMS技术而设计的测量蒸发系统中压力的传感器。

Evap fuel vapor pressure sensor is a kind of pressure sensor based on MEMS technology.

### 产品特征及优势 Feature and benefits

- ◆ 工作温度范围广，为-40-130℃，并具有全温区补偿  
The working temperature range is wide, from - 40 °C to 130 °C, with full temperature compensation
- ◆ 高精度相对压力传感器，可检测出系统中出现的极小泄露  
High precision relative pressure sensor can detect minimal leakage in the system
- ◆ 具有断线检测，输出报警功能  
With broken line detection, output alarm function
- ◆ 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



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### 产品作用 Application

- ◆ EVAP 用于测量燃油蒸发系统中的压力，有助于减少气体泄露至大气。  
Evap is used to measure the pressure in the fuel evaporation system to help reduce gas leakage to the atmosphere.

### 操作 Operation

#### ◆ 基本原理 Basic principle:

EVAP传感器压力敏感单元受到压力作用，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，得到比例电压输出，该比例电压输出与蒸发系统和周围大气压之间的压力差成比例，用于检测蒸发系统内的泄露。

The pressure sensitive unit of evap sensor is affected by pressure, which leads to the change of piezoresistance value of Wheatstone bridge, which is converted into voltage signal. The signal is amplified and compensated by signal conditioning circuit to obtain proportional voltage output. The proportional voltage output is proportional to the pressure difference

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between evaporation system and surrounding atmospheric pressure, which is used to detect leakage in evaporation system.

### ◆ 连接选项 Connection options:

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:

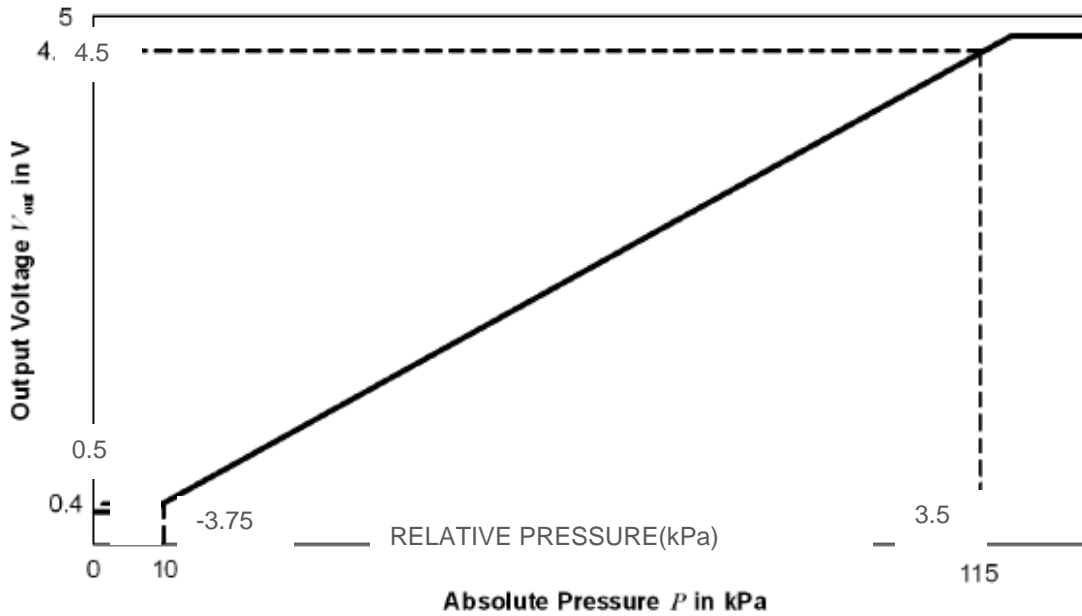
可提供定制包装以满足任何需要，请联系KESENS技术部了解详情。

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 TEMPERATURE RANGE	T	-40		130	°C	
压力测量范围 PRESSURE RANGE	P	-3.75		3.5	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		2.9	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	V <sub>CL-HI</sub>		4.7		V	可定制 Customizable
下限钳位电压 LOWER CLAMPING LEVEL	V <sub>CL-LO</sub>		0.3		V	可定制 Customizable
输出压力精度 OUTPUT PRESSURE ACCURACY	Err	-0.247		0.247	kPa	@10°C~80°C
		-0.348		0.348	kPa	@-40~130°C
压力响应时间 PRESSURE RESPONSE TIME	T		2		ms	

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PRESSURE OUTPUT TRANSFER FUNCTION AT  $V_{CC} = 5.00V$   
 $V_{CC} = 5.00V$ 时压力输出传递函数

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.