

缸压传感器 Cylinder Pressure Sensor

产品介绍 Product Description

缸压传感器用于获取气缸内的燃烧反馈，并提供信号给发动机控制器。

A CPS allows one to get combustion feedback from inside the cylinder, and send the signal to ECU.

产品特征及优势 Feature and benefits

- ◆ 采用稳定可靠的压阻式微型应变片技术。
Robust and reliable piezoresistive Micro Strain Gauge technology.
- ◆ 0~20MPa 范围内，压力量程可定制。
Pressure can be customized in the range of 0~20MPa.
- ◆ 优异的介质兼容特性。
Excellent compatibility of operation media.
- ◆ 可选择电压输出或 SENT 输出，提供适当诊断。
Output can be SENT and Analog, with diagnosis function.
- ◆ 可自带温度补偿功能。
Temperature Compensation is available.
- ◆ 防护等级可达到 IP69。
Protection degree with IP69.
- ◆ 接插件及压力接头可定制。
Connector and pressure port can be customized.



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产品作用 Application

为发动机燃烧闭环控制提供缸压检测信号(20MPa)，以满足法规要求。

A CPS allows one to get combustion feedback from inside the cylinder, to fulfill the regulatory requirements.

操作 Operation

◆ 基本原理 Basic principle:

采用玻璃微熔工艺，将压阻式微应变片烧结在不锈钢接头上，当外界压力作用在不锈钢压力头上时，硅应变片将随之产生形变，而其电阻阻值将随形变产生变化，经过调理电路处理，电阻阻值将被转化为模拟信号或SENT信号。

With glass micro-melting process, piezoresistive micro strain gauge will be sintered on stainless steel port. When the pressure affected on the stainless port, silicon strain gauge will also be deformed, then its resistance value will change against the deformation. After conditioning, the resistance value will be converted into analog signal or SENT signal as needed.

◆ 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。

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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
工作温度 TEMPERATURE RANGE	T	-40		140	°C
压力测量范围 PRESSURE RANGE	P	0		20	MPa
电源电压 SUPPLY VOLTAGE	Vcc	4.75	5	5.25	V
电源电流 SUPPLY CURRENT	Icc			10	mA
额定输出电压 NOMINAL OUTPUT	Vout	5		95	%Vcc
过电压					V
反向电压		-24			V
过载压力				26	
爆破压力				30	MPa
整体精度误差 OVERALL ACCURACY ERROR	Err		±2%		、%FS
压力响应时间 PRESSURE RESPONSE TIME	从 10%到 90%的最输出电 压 T _{10/90} 10% TO 90% OF THE FINAL OUTPUT VALUE			10	mS

可根据需要定制电气和环境规范，详情请联系KESENS技术部。

Custom electrical and environmental specifications can be designed to meet any need, please contact KESENS Engineering for details.