汽车氧传感器（宽域型）Oxygen Sensor for Auto (Wideband Type)

产品介绍 Product Description

汽车氧传感器是一种检测发动机排放废气中氧的含量的传感器，它将自身产生的电压信号反馈给汽车发动机电子控制单元（ECU）用于空燃比闭环控制。宽域型线性氧传感器电流输出与排气中的氧离子浓度成正比例从而能检测废气中很宽泛的范围。氧传感器是现代电喷发动机的一个关键零部件

Automotive Oxygen sensor is a part that detects the amount of oxygen in the exhaust gas of vehicle engine. It feeds back its own voltage signal to the engine electronic control unit (ECU) for air-fuel ratio closed-loop control. Wideband linear oxygen sensor diffusion limited current output is approximately linear to exhaust oxygen concentration so that it measures lambda over a wide range in exhaust. Oxygen sensor is an essential component of modern engine management system (EMS).

产品特征及优势 Feature and benefits

- 可靠性好。Strong reliability.
- 起燃时间短。 Short light-off time.
- 抗中毒能力强。 Strong anti-poisoning ability.
- 信号稳定。 Stable signal.
- 密封性能好。 Good sealing performance.
- 响应速度快。 Quick response.
- 外观和客户接口可以与主流 OEM 产品兼容。
  Performance and customer interface compatible with OEM products.

汽车氧传感器(宽域型)
Automotive Oxygen Sensor
(Wideband)

产品作用 Application

- 降低汽车综合油耗。 Reduce car fuel consumption.
- 满足汽车排放要求。 Meet automotive emission requirements.
- 用于直喷汽油机、柴油机以及稀薄燃烧发动机。 Used for GDI, diesel and lean combustion engine.
- 提高催化器效率。 Improve the efficiency of the catalytic converter.
- 参与闭环控制。 Participate in closed-loop control.

操作 Operation

- **基本原理 Basic principle:**

氧化锆氧传感器的特点为，两侧氧离子的移动会产生电动势，反之将电动势加在氧化锆上，则会产生氧离子的移动。宽域型氧传感器的结构主要由扩散室、参考室、泵电池、氧浓差电池以及加热部件组成。宽域型传感器施加电压在泵电池上，产生泵电流，使氧浓差电池两面的氧含量保持一致，让电压值维持在0.45V（即参考电压为0.45V）。富油的浓混合气将使氧浓差电池电压大于0.45V，传感器控制器则施加负方向的泵电流Ip,使氧气泵入扩散室，进行化学反应，降低废气的浓度，使电压恢复到0.45V；反之，若富氧的稀混合气将使氧浓差电池电压小于0.45V，则产生正方向的泵电流Ip,将氧气泵出扩散室。当燃料或氧气被中和时，氧浓差电池输出电压就维持在0.45V。宽域氧传感器就是这样通过泵电流的大小和方向，来反映废气的浓或稀，以及浓稀程度。

The characteristic of zirconia oxygen sensor is that the movement of oxygen ions on both sides will generate electrical voltage, otherwise, the movement of oxygen ions will be generated when the electrical voltage is applied to zirconia. The

汽车氧传感器（宽域型）Oxygen Sensor for Auto (Wideband Type)

structure of wideband oxygen sensor is mainly composed of diffusion chamber, reference chamber, pump cell, oxygen concentration cell and a heater. The wideband sensor applies voltage to the pump cell to generate pump current, so that the oxygen content on both sides of the oxygen concentration cell is consistent, and the voltage value is maintained at 0.45V (0.45V as reference). The rich fuel/air mixture will make the oxygen concentration cell voltage greater than 0.45V, and the sensor controller will apply the negative pump current Ip to pump oxygen into the diffusion chamber for chemical reaction, increase the O2 concentration of exhaust gas, and restore the voltage to 0.45V; When lean fuel/air mixture will make the oxygen concentration cell voltage less than 0.45V, the positive pump current Ip will be generated to pump the oxygen out of the diffusion chamber. When the fuel/air is ideal ratio for chemical reaction, the output voltage of the oxygen concentration cell is maintained at 0.45V. In this way, the wideband oxygen sensor reflects the oxygen ion concentration of exhaust gas and the degree of concentration through the value and direction of pump current.

- **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

项目Item	条件Condition	标准Standard
工作温度 Operation Temperature 废气温度 Exhaust Temperature	≤ 930℃	
加热电阻 Heater resistance	20℃±1℃	3.2 Ω±0.5Ω
工作电压Working Voltage	8-10 V	
检测范围 Measurement Range	λ=0.7-空气	
起燃时间 Light-off time	≤15s	
λ值检测精度 Lambda Accuracy	@ λ=0.8	0.8±0.03
加热稳态功率 Heating power	7.5-10.0 W	

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.