

AIR FUEL RATIO SENSOR

CERADEX CORPORATION

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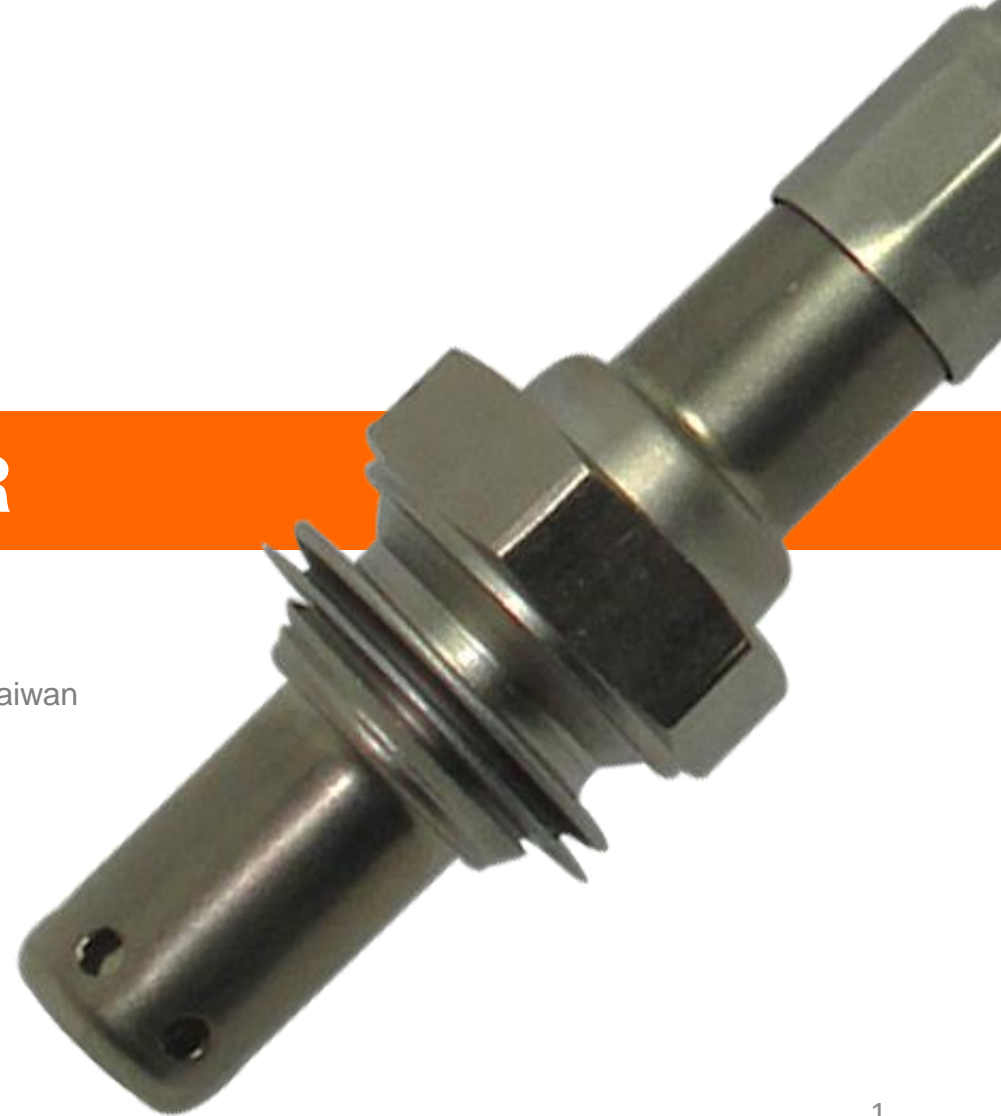
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Updated: 12/14/2016

Sales Department

By: William Huang



WHAT IS AN AIR FUEL RATIO SENSOR?

An Air Fuel Ratio Sensor is a wide range oxygen sensor that focuses detection on lean spectrum of air to fuel ratio by continuous sampling of oxygen sensor content within the exhaust gas, and feeds its reading to the vehicle's ECU for air and fuel management. They are planar constructed ceramic element, single cell current limiting sensor with integrated heater that usually comes with 4 wires. And unlike the regular oxygen sensor, Narrow Band, which detects the oxygen contents by rich or lean indication, an Air Fuel Ratio Sensor is particularly sensitive to the lean spectrum of air to fuel ratio and make adjustment as to how lean these oxygen contents are, and so to provide more accurate readings to the on vehicle ECU.



WHY CHOOSE CERADEX'S AIR FUEL RATIO SENSOR?

CERADEX's patented single cell air fuel planar technology enables our sensors to achieve systematic oxygen pumping that allow higher detection accuracy in linear format. In addition, this design also provides higher detection accuracy and heating durability. To ensure the highest quality and stability, every piece of sensor manufactured undergoes strict simulated bench for function check of both lambda voltage and ampere under lean spectrum, as well as pressurized sealing bench for leakage check. With 20 years of experience in the field, choose CERADEX's Air Fuel Ratio Sensor for your replacement needs!



SPECIFICATION

Spec	Detail
Sensor Element	High Sensitivity ZrO2
Technology	Single Cell Current Limiting
Circuitry	Isolated Ground
Frontal Tube	Double Layer
Hex Nut	M18
#Wires	4
Heating	Heated
Fitting	Direct Fit
Temperature Range	-40 ° C to 1200 ° C
Operating Temperature	>400 ° C



FEATURES

Single Cell Current Limiting

- Single cell planar design provides higher lean range detection accuracy as well sensor heating durability

Monolithic Ceramic Element

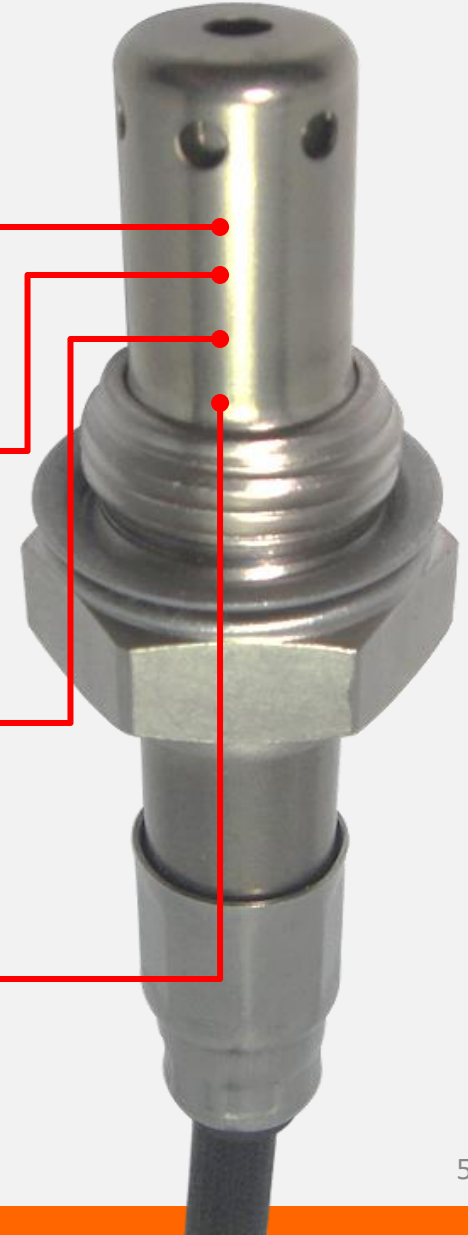
- Allowing sensor to reach operation faster and thus decrease light off time

Formulated Element Surface

- Better protection against thermal variation within exhaust pipe

Formulated Protection Layer

- Keeps harmful gas from sensing element to prevent damages to sensing catalyst



FEATURES

Double Layer Frontal Cover

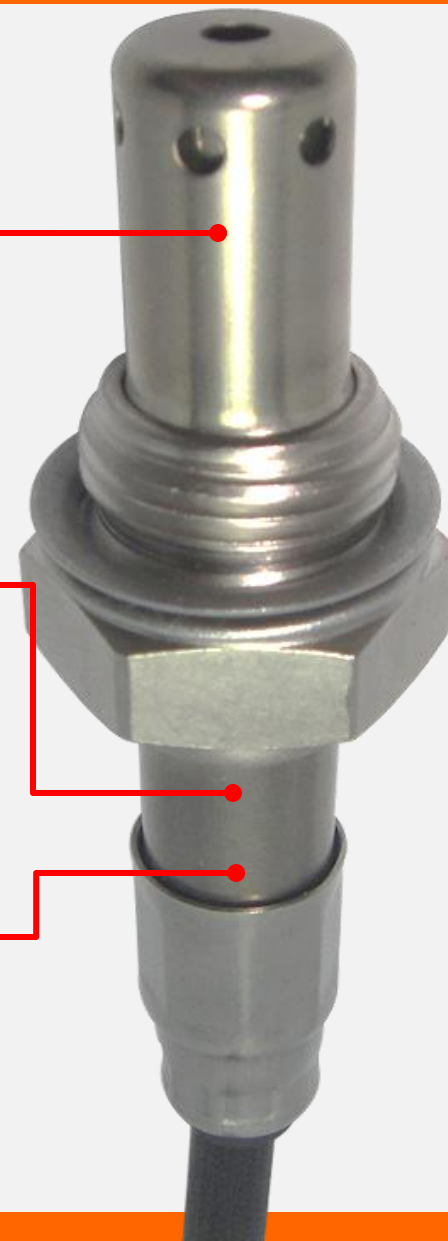
- Better sensing element protection against harmful exhaust environment
- Maintaining proper temperature for faster sensing switch time

Circuitry

- Isolated circuitry body to minimize signal noise

Stainless Steel Casing

- Premium stainless steel body protecting against extreme temperature and environment



PRODUCT VALIDATION

Function

- Burner, Connectivity

Mechanical

- Wire pull, Pendulum, Thread torque, Leakage

Environment

- Vibration (SGS), Thermal shock (SGS), Fuel ingress, Water spray, Stone impact, Salt mist (SGS), Temperature change

Durability

- Engine bench, On vehicle, On taxi

Oxygen sensor developed by CERADEX undergo series of tests to ensure quality and specification tolerance matching that of OEM. We gathered and referenced the methods of tests base on SAE, Bosch, and NGK standards, so that clients can feel safe about our products.



MATERIAL

Raw Zirconium

- Japan, China

Stainless Steel S310

- Germany

Catalyst Compound

- Germany, Japan

Heater

- Japan

Teflon Wire

- Taiwan (UL1726)

Connector

- OEM, Taiwan, China

At CERADEX, we understand the importance of good material makes good product, especially with product such as oxygen sensor, where it is positioned in high temperature environment. Good materials increase product's lifecycle, maintaining healthy function, and uphold safety standard. This is why we source our materials from counties with high quality standard.



QC CHECK POINTS

100% QC Check

- Leakage
- Function
 - Ampere
 - Voltage
- Conductivity
- Resistance

SOP Check

- Density
- Flow velocity
- Weight
- Wire pull
- Thread torque
- Function
- Temperature
- Etc....

To further ensure sensor quality, CERADEX checks every single sensors for functions and leakage before shipping them out to clients. Our self-engineered control testers are calibrated by SGS and CLS on a yearly basis.



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