



## WIDEBAND OXYGEN SENSOR

### CERADEX CORPORATION

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## WHAT IS A WIDEBAND SENSOR?

A Wide Band Oxygen Sensor is an all range oxygen sensor for detecting broad spectrum of air to fuel ratio by continuous sampling of the oxygen 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, dual cell current limiting sensor with integrated heater that usually comes with 5 wires or more. And unlike the regular oxygen sensor, Narrow Band, which detects the oxygen contents by rich or lean indication, a Wide Band Oxygen Sensor can detect how rich or how lean these oxygen contents are, and so to provide more accurate readings to the on vehicle ECU.



## WHY CHOOSE CERADEX'S PLANAR OXYGEN SENSOR?

CERADEX's patented dual cell wideband planar technology enables our sensors to achieve higher detection accuracy and stability, while increase 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 wideband ampere, as well as pressurized sealing bench for leakage check. With 20 years of experience in the field, choose CERADEX's Wideband Sensor for your replacement needs!



# SPECIFICATION

Spec	Detail
Sensor Element	High Sensitivity ZrO2
Technology	Duel Cell Wideband Planar
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

## Dual Cell Current Limiting

- Dual cell planar design provides higher full range detection accuracy, increased stability, and better 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

## Laser Welding body

- Better protection against water and oil intrusion

## 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
  - 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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