

Who are we?

NikOttO is a private limited company founded by alumni and research scholars of the Indian Institute of Technology Madras. We were incubated by Nirmaan, IIT Madras under the mentorship of Prof. A. Ramesh. We are specialized in research and development of customized products & solutions to the automotive industry.

Our Vision

To create a safer, smarter and sustainable mobility ecosystem

Our Mission

To become the most preferred mobility solution partner by delivering innovative and affordable solutions.

Other Products

- MisfireGen- Real-time misfire emulator for SI engines
- EngineScan – Combustion Analysis System for IC Engines
- WankelScan – Combustion Analysis System for Wankel Engine
- EngineSim – Engine Signal Emulator
- Dyno-Ctrl'r – Eddy current Dyno Controller
- OpenECU – Programmable Engine Control Unit

REGISTERED OFFICE

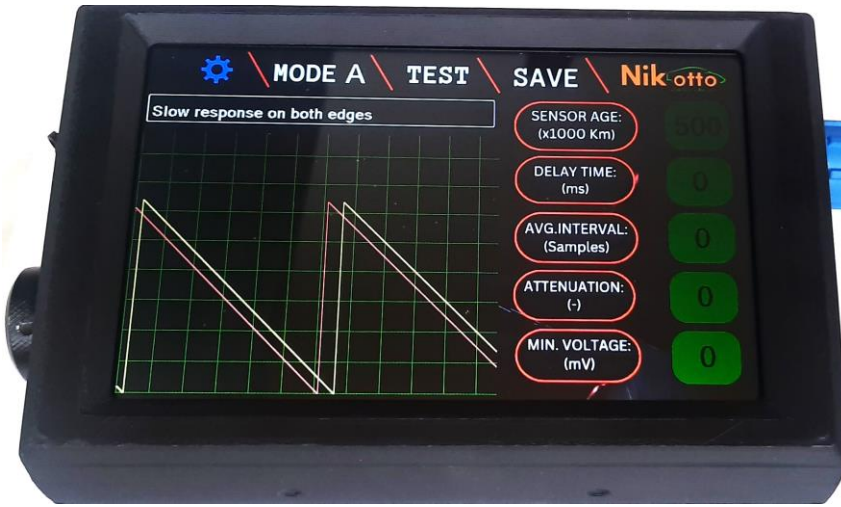
Ground floor, Automotive lab.
National center for combustion research and development.
IIT Chennai, Tamilnadu
600036

LambdaGen

Lambda Sensor Ageing Simulator



On-Board Diagnostics & Services



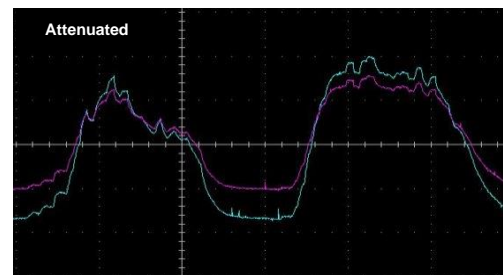
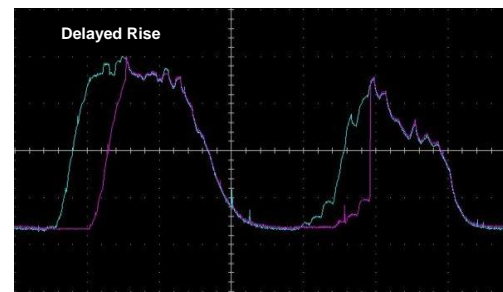
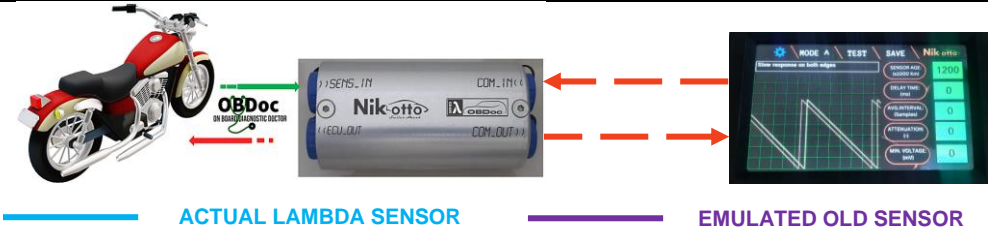
About LambdaGen

- Lambda sensor, also known as an oxygen sensor, detects the amount of unburnt oxygen in the exhaust gas. This helps in the closed loop control air-fuel mixture.
- A good lambda sensor can reduce fuel consumption by at least 15% and plays a vital role in reducing pollutants.
- Ageing of lambda sensor happens due to continuous operation in high temperature.
- Lambda sensor aging emulators are units that **modify voltage signals from a healthy sensor in real time**. to emulate several fault cases originating from sensor aging.
- **The device monitors the vehicle's exhaust gas oxygen sensor signals and digitally modifies the signal on demand based on the fault case selected.**
- Lambda sensor aging emulators are useful tool which facilitates testing of OBD algorithm in ECU and checking the fault codes for demonstration purposes to emission regulators.

KEY FEATURES

- LambdaGen is capable of simulating different fault cases such as
 - Slow response on both edges
 - Slow response on the rising edge / Slow response on the falling edge.
 - Delayed response on both the edges
 - Delayed response on the rising edge / Delayed response on the falling edge
 - Attenuated signal and Attenuated signal with a delay
- It is an **external device** capable of generating faulty lambda sensor signal **by only being connected to vehicle's wiring harness.**
- **Device can be extended to emulate catalytic converter aging by emulating two upstream and downstream lambda sensors.**

LambdaGen System Layout



SPECIFICATIONS AND LIMITATIONS

Operating Voltage	9 to 14 V
Max Rated Current	1.0 A
Operating Temperature	20°C to 60°C
Dimensions (in mm)	
Lambda unit	150 x 60 x 50
Interface unit	200 x 120 x 80
Power module	70 x 70 x 30