

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 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
- LambdaGen- Lambda sensor ageing simulator
- EngineScan – Combustion Analysis System for IC Engines
- WankelScan – Combustion Analysis System for Wankel Engine
- Dyno-Ctrl'r – Eddy current Dyno Controller
- EngineSim- Engine signal Simulator

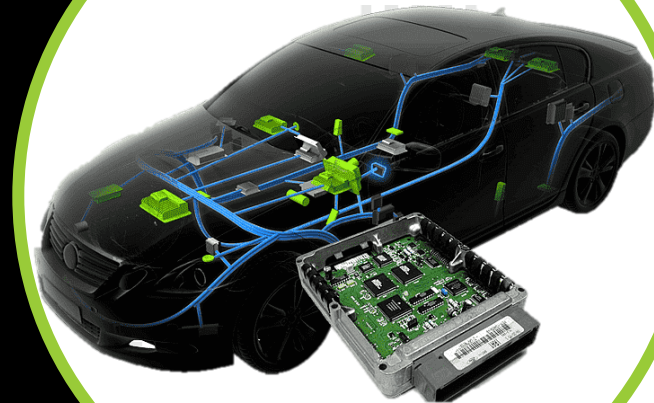
REGISTERED OFFICE

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

Programmable ECU





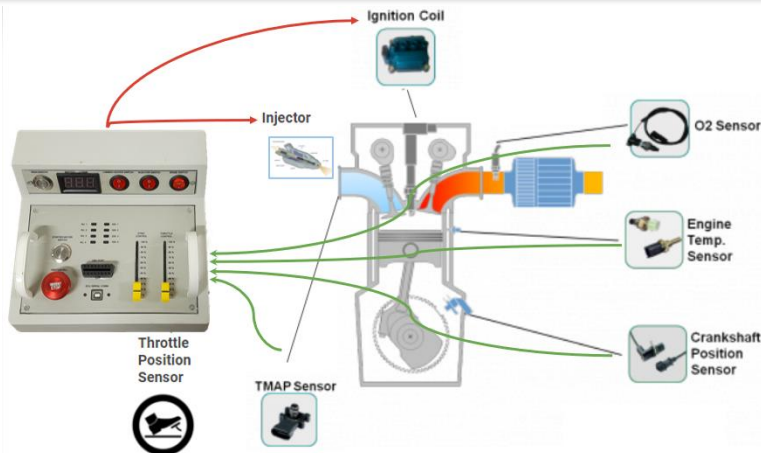
About

Engine Control Unit (ECU) ensures the optimal performance of an engine. It controls fuel injection, Ignition, and other associated systems.

Our device can be used as a **plug-and-play retrofit** to control electronic fuel-injection in up to 4-cylinder engines and can also be used as a **low-cost ECU** in academia for controlling and tuning engines **for research purposes**.

The controller will use **open and closed loop maps**, with acceleration corrections for controlling the injector. The **engine maps** for tuning will be **accessed through PC based engine tuner software**.

It uses an **ATmega2560 microcontroller**, allowing users to modify and **develop custom controls in Arduino IDE**. Our ECU **comes with a PC-based data logging software** which avoids the need for additional data acquisition hardware.



KEY FEATURES

- **Primary map**
 - ✓ The fuel or VE table is the primary method of controlling the amount of fuel injected at each speed/load point.
 - ✓ **The fuel map is a 3D, interpolated** table that uses RPM and fuel load to determine the desired VE value.
 - ✓ The fuel load axis determines whether you are using Speed Density (MAP kPa) or Alpha-N (TPS) for your fuel load.
- **Secondary map**
 - ✓ To facilitate better engine control. **Secondary fuel correction table based on Barometric pressure or lambda sensor.**
- **Other fuel correction table**
 - ✓ **Acceleration enrichment table based on** the rate of change of **TPS** and **MAP** is provided to correct the effect of the fuel plume in the manifold.
 - ✓ **Coolant temperature-based fuel enrichment map** is added to control the engine warmup during cold start.
 - ✓ For controlling AFR, an **Open and closed loop lambda sensor-based look-up table** is provided.
- **Ignition control**
 - ✓ ECU **supports all** types of **Ignition systems and spark modes** like sequential and wasted sparks.
 - ✓ **In addition to the base 16x16 ignition lookup table**, Corrections for cranking & idling advance and **dwel timing correction** for battery voltage are also available
- User can control idle speed control valve.
- Other Accessories – Coolant fan, Fuel pump, Boost control, and VVT control is also supported.
- **All the signals can be logged with engine telemetry software.**

SPECIFICATIONS	ECU Processor	ATmega 2560 microcontroller
	ECU Software	EFI Analytics Tuner Studio Software
	3D map	16x16 nonlinear lookup table
	2D maps	16 x 2 nonlinear lookup table
	Open ECU capabilities	<ul style="list-style-type: none"> • Idle speed control • Closed loop AFR control • Fuel Control and secondary corrections • Other accessories: - Coolant fan, Fuel Pump, Boost control, VVT Control, Drive by wire throttle body.