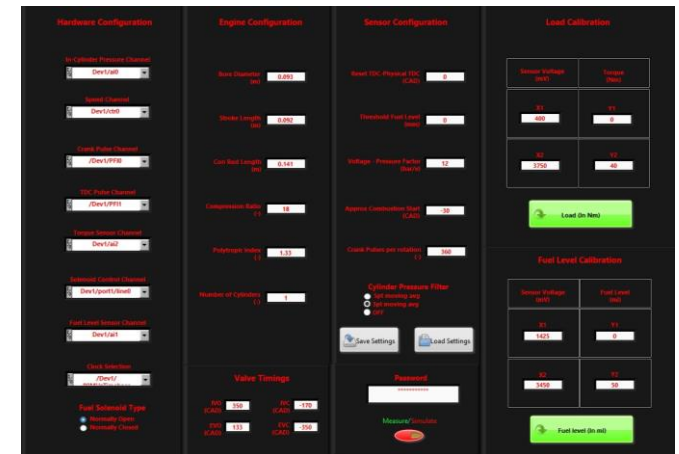
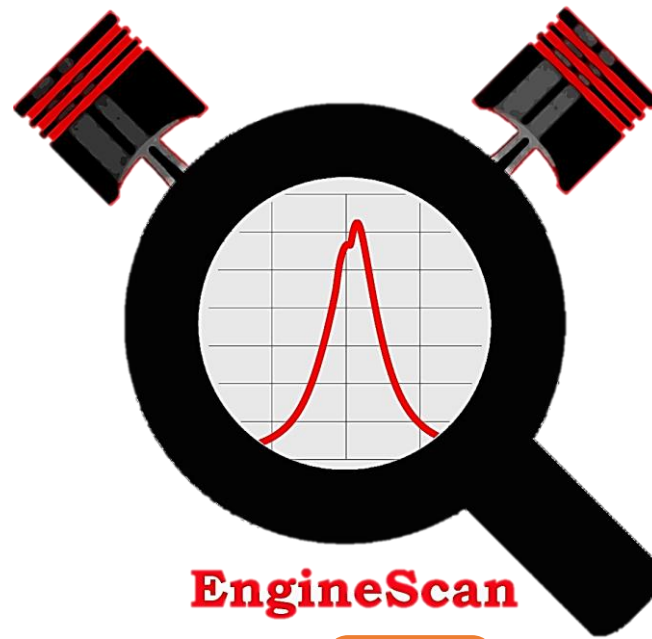
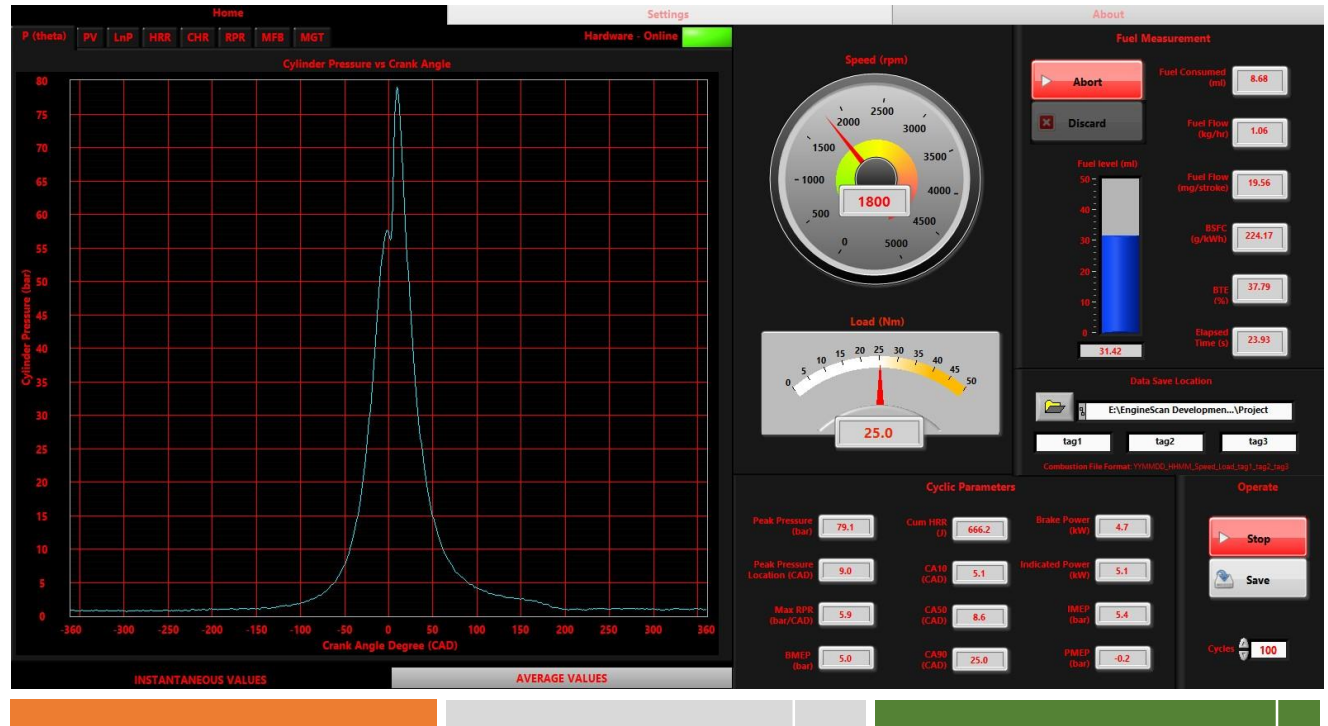


About EngineScan

EngineScan is an engine combustion data acquisition and analysis tool developed by NikOtto Pvt. Ltd. It is based on NI Labview platform and can be used with NI data acquisition systems or other compatible DAQ hardware. It finds its application in engine research, both in academia and the automotive industry.

Key Features

The EngineScan uses hardware triggered pressure data acquisition which enables real-time visualization of cylinder pressure, heat release rate and other derived traces and parameters. It implements an advanced and proven algorithm to detect combustion TDC which eliminates the use of CAM sensors for phase detection. It can take encoder signals of 0.5deg and 1deg resolutions, and the use of VR sensor signals is under development. It has password protected Advanced Settings tabs which helps avoid changes to sensitive settings by novice users. It is also possible to save and retrieve the user configurations, which enables easy management of multiple user-specific and engine/vehicle specific settings. There is an option to apply filters to the acquired data which ensures good quality of data even under adverse engine conditions. The software accepts engine torque and fuel level inputs and is possible to integrate other testbed relevant inputs as needed by the end user.



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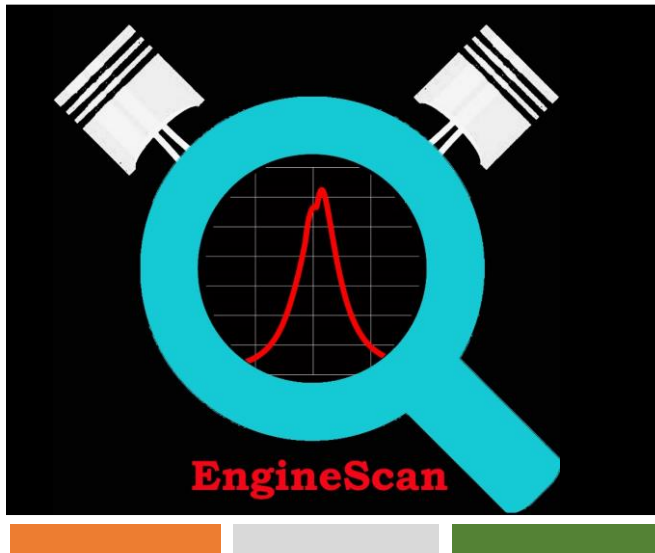
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GSTIN: 33AAHCN3610M1ZI

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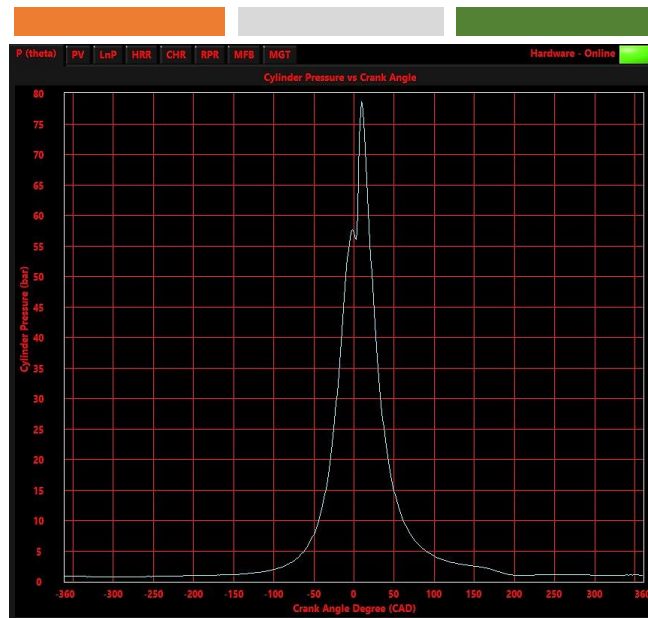


Combustion Analysis

EngineScan is capable of analyzing the following traces related to the engine's combustion: cylinder pressure vs crank angle, cylinder pressure vs cylinder volume, logarithm of cylinder pressure vs cylinder volume, mass fraction burnt, heat release rate, cumulative heat release, derivative of cylinder pressure and mean gas temperature during combustion. It can also measure the following parameters: peak cylinder pressure and its location, start, mid and end of combustion, brake mean effective pressure, indicated mean effective pressure, pumping mean effective pressure, cumulative heat release, fuel consumption, brake power, indicated power, brake specific fuel consumption. It is also possible to include any other measurements as per customer requirements.

Unique Features

Ability to display instantaneous and multiple-cycle averaged combustion parameters and traces in real-time. Simulation feature can be used to visualize pre-programmed combustion data in an infinite loop, without having to connect with a hardware which helps in easy training to engine combustion analysis for beginners. Ability to interface with torque sensors which enables evaluation of brake specific performance parameters. Real-time calibration of sensors enables decrease in setup duration and the need for additional measurement devices. Capable of recording large number of cycles which makes it suitable for combustion analysis during transient engine cycles.



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EngineScan 2.0

About NikOtto

NikOtto is a private limited company registered under the ministry of Corporate affairs, India. It is a startup company from the Internal Combustion Engines laboratory of the prestigious Indian Institute of Technology, Madras and incubated by Nirmaan.

Existing Customers

Medhaavi Automotive Research Center – Punjab, Mohamed Sathak Engineering College – Tamil Nadu, Aliah University – West Bengal, to name a few.