



Engine Control Module for Common Rail Diesel Engines

The modern diesel engine is under constant pressure to provide more power/torque, refinement, efficiency and at more stringent emissions levels. The ability to meet these ever-increasing demands, coupled with the need to shorten development cycles and reduce costs, requires maximum capability and flexibility especially in the area of engine control systems. EControls has developed a diesel controller with capability and flexibility in mind.

The EControls Diesel Engine Control Module (ECM) is based on our 4th-generation ECM platform and combines our extensive experience in model-based controls with the latest technology to meet the needs of today's diesel engines.



- **Flexibility** – Our ECM hardware and software can be tailored to your specific needs, allowing you to quickly respond to regulatory, market and application requirements.
- **Advanced Technology** – Model-based control ensures the best overall system performance while minimizing the overall calibration effort and impact of hardware variability.
- **Reduced Development Cost** – Our commercial and customer support model ensures a high level of program management and technical support, yet keeps NRE costs substantially lower than traditional diesel ECM supply models.
- **Rugged Design for Extreme Environments** – With an IP67-rated enclosure and engine-mount capability, the ECM is designed to withstand even the most extreme environments (up to 125°C operating temperature).
- **Proven Reliability** – Our engine control systems have been put to the test. With over 150,000 systems currently on the road and more than 600,000 across all markets, our systems consistently provide reliable and dependable performance.

Who We Are

Since 1994 EControls products have delivered innovation and customer satisfaction to the engine and vehicle industries through state-of-the-art engine controls, engine development, consulting and engine calibration services. We have thrived in the middle market providing advanced and sophisticated products and engineering services while offering flexible, customized solutions.

- Largest natural gas engine control system provider in the world in on-road and non-road heavy-duty markets
- Business structure designed to support OEM clients
- Custom system development to meet Euro-III through Euro-VI emission regulations
- Experts in engine control systems for diesel to natural gas engine conversion

EControls[®]

by **ENOVATION CONTROLS**



Top View



Bottom View

Features

- Intuitive model-based calibration software
- Customized software and hardware features
- Data logging capable without need for ETK
- Small footprint (191mm x 187 mm x 49 mm)

Functionality

- Dynamic model-based control
- VGT turbo and EGR control
- Diesel particulate filter – soot load/regen control
- Options for SCR

Technical Specs

- 120-pin connection
- Renesas Super-H series microcontroller; 32-bit 200MHz superscalar architecture
- Diesel solenoid common rail injectors (up to 8 cylinders w/ up to 7 injects per event)
- Up to 3 H-bridge motor drivers, 3 CAN channels, 2 UEGO sensors
- Rugged design with engine mounting capability
- 20g vibration at the shock mounts
- Maximum operating temp: 125°C (257°F)
- IP67 sealing

About Enovation Controls

Enovation Controls designs and manufactures a full line of engine control products backed by extensive development expertise to provide customers with a complete solution approach for engine control, protection and monitoring. They are one of the largest suppliers of CNG and LNG control systems in the industry, with more than 150,000 truck and bus systems in operation globally. Enovation Controls' headquarters is located in Tulsa, Oklahoma. The company has operations in China, Europe, India and the United States.

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