

Diesel Common Rail Engine Simulator

The Diesel Common Rail Engine Simulator is a signal generator that simulate sensors and actuators of a diesel common-rail engine.

The simulator generate this signals:

- Crank Shaft Signal (RPM): the signal simulate the output of a inductive sensor (plus signal and minus signal) from a phonic wheel with 60-2 teeth; this frequency of the signal is adjustable with a trimmer (from 0 to 5400rpm);
- Cam Shaft Signal (PHASE): the signal simulate the output of a Hall Sensor positioned on the engine camshaft (digital signal);
- Accelerator (%);
- Rail Pressure (bar);
- Boost Pressure (Absolute Value of Turbo Pressure);
- Engine Coolant Temperature (°C);
- Fuel Temperature (°C);
- Switch alarm to control the lamp and the wiring of the panel instruments:
 - D+ alarm (alternator not charge);
 - Engine Oil Pressure alarm (low engine oil pressure);
 - Engine Coolant Temperature alarm (high coolant temperature);

Also the system simulate the follows actuators:

- Solenoid Injector;
- Electronic Valve for Rail Pressure regulation;
- Relay activation: fuel pump, fuel pre-heating, glow plug module, main relay.





Application	Electrical Data
Test of:	Power consumption @ full load (4200RPM): approx. 70W
<ul style="list-style-type: none"> ECU Box for FNM Diesel Common Rail Engine Extension Cable Panel Instruments cable Panel Instruments 	Simulated sensors: <ul style="list-style-type: none"> RPM (crank-shaft sensor): digital signal frequency variable Phase (cam-shaft sensor): digital signal frequency variable in according with rpm signal Accelerator (fixed value) Rail Pressure (fixed value) Boost Pressure (fixed value) Coolant Temperature (fixed value) Fuel Temperature (fixed value)
Mechanical Data	Simulated Alarm:
Plastic housing	<ul style="list-style-type: none"> D+ Alarm (alternator charge) Engine Oil Pressure Alarm Engine Coolant Temperature Alarm
Connections: 1 connectors (47 ways), 2 banana plugs	
Max dimensions without connectors: 260 x 290 x 110mm	
Weight: approx. 1.5Kg	
Internal temperature range: -20°C ... +70 ° C	Simulated output (actuators):
IP Protection: not sealed	<ul style="list-style-type: none"> Solenoid Injector Electronic valve for rail pressure regulation Main relay, fuel pump relay, glow plug relay, fuel-preheating relay
Connectors	Communication interfaces
Connector 1: 47ways	1 CAN interface Display / Logger
Connector 2: two banana plugs for power	1 RS232 / Kline: calibration software/EOBD diagnosis
Included Features	Part Number
Complete documentation for TEST	ECU_BOX Simulator