PE3 ECU SERIES

BY PERFORMANCE ELECTRONICS, Ltd.

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The ***PE3*** engine control unit is a compact, adjustable system that handles fuel and ignition responsibilities for almost any engine. The long features list, ease of use and small size make it a great addition to any vehicle, on or off-road.

General System Features

- Completely adjustable via a laptop.
- *Plug-and-Play* versions available for some applications.
- Lightweight and compact with a waterproof option (4.25”x 4.80” x 1.00” and less than 1 lb).
- *Dedicated CAN bus* that allows communication with external devices.
- *Standard 1MB of on-board data logging* for engine parameters and external inputs (Approx 5 hrs of data with 10 channels at 20 Hz).
- 25,000+ max RPM.
- Adjustable rev limits including Primary, Secondary and Boost limits.
- Password protected access.
- Fast and reliable communication via *Ethernet*. Allows for easy *wireless tuning* with routers.
- Real-time tuning.
- Extensive error and diagnostic functions.
- Save and load tuning files, or parts of tuning files, to and from disk.
- Primary/Secondary main fuel and ignition tables.

Plastic, Waterproof Enclosure

Aluminum Enclosure

Fuel Specific Control

- *25x26 Main fuel table* with adjustable indices and an option to reduce table size to 13x13.
- Barometric Pressure, Acceleration, Deceleration, Battery, Air Temp, Coolant Temp and Starting compensations.
- Individual cylinder trims.
- Closed loop control with adaptive learning.
- Sequential, batch or semi-sequential injector firing.
- Adjustable injection timing control.
- Saturated or peak-and-hold injector drivers.
- Adjustable peak current and adjustable hold current for low impedance injectors.
- Staged injection.

Ignition Specific Control

- Coil-on-plug, wasted spark or distributor based ignition.
- *No external igniters required.* Inductive igniters are built in the ECU.
- *25x26 Main Ignition table* with adjustable indices and an option to reduce table size to 13x13.
- Starting, Air Temp, Coolant Temp and Barometric Pressure compensations.
- Individual cylinder trims.
- Adjustable dwell as a function of Battery Voltage.

System Inputs

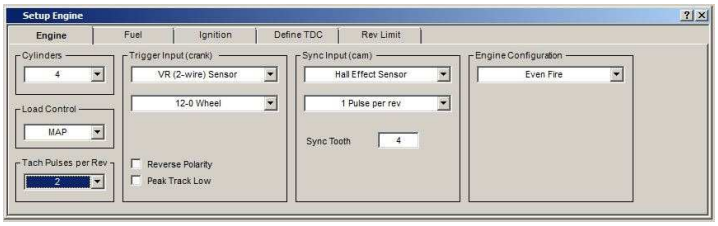
- MAP, TPS, Barometric Pressure, Air Temp, Coolant Temp, Battery Voltage, Crank, Cam, Thermistors, EGO.
- Up to *8 generic analog inputs* that can be used to modify fuel, modify timing, cut fuel, cut timing or simply be logged.
- 2 additional thermistor inputs.
- Up to *7 user configurable digital inputs* that can stop fuel, stop ignition, measure speeds, initiate secondary rev limit, start/stop data logging, etc.

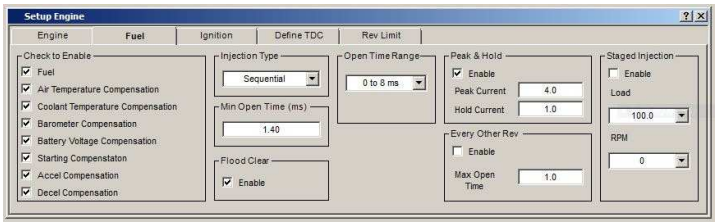
System Outputs

- Fuel pump driver.
- *8 peak-and-hold or saturated injector drivers.*
- *4 ignition coil drivers with internal igniters.*
- Dedicated tachometer driver.
- Idle air stepper motor driver.
- *Up to 10 user configurable digital outputs.*
- *Up to 8 Pulse Width Modulated outputs* with adjustable duty cycles based on 3-D tables.

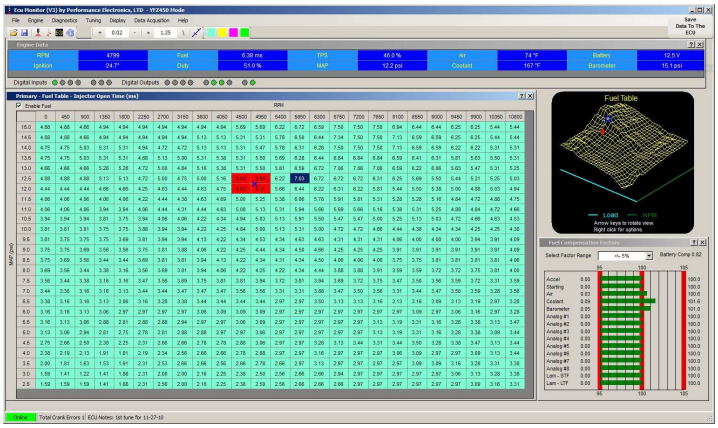
Advanced Tuning Software

- All features are completely adjustable using the advanced software that communicates to the ECU via an Ethernet connection.

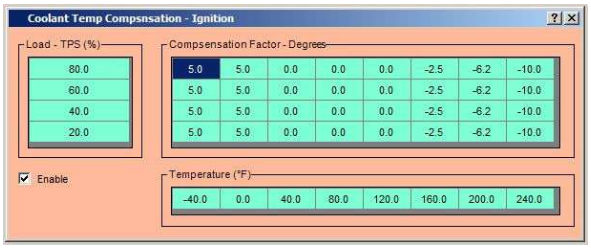


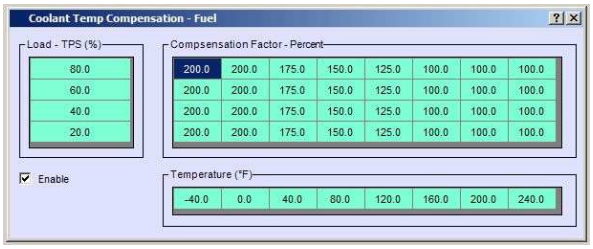


- Huge *25x26 main fuel and ignition tables* provide ample resolution for even the most difficult to tune engine. User adjustable RPM and Load indices make the system even more versatile.

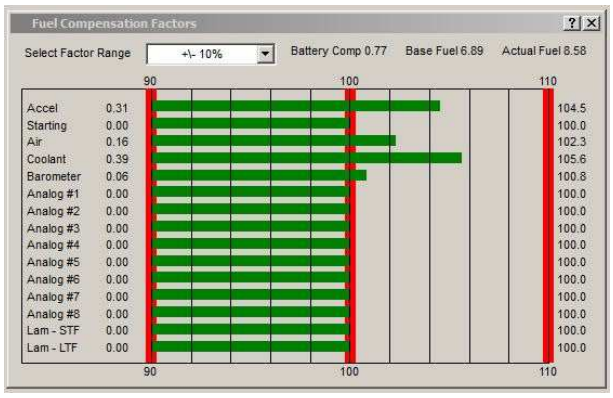


- In addition to the large fuel and ignition tables, the ***PE3*** allows you to adjust all fuel and ignition compensation terms real time.

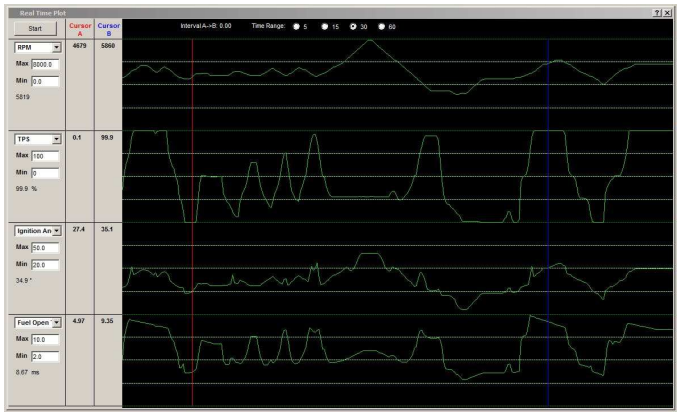




- While tuning, individual compensation terms are represented in an easy to view bar graph. This allows instant identification of which factors are influencing fuel and ignition.



- *Real-time plotting and internal data logging are included with every system.* 1 MB of data can be stored in the ECU as the engine runs. Engine parameters, as well as generic analog and digital inputs, can be logged.



- *Advanced diagnostic features,* like error logging and crank/cam trigger scope displays, allow for easy troubleshooting.