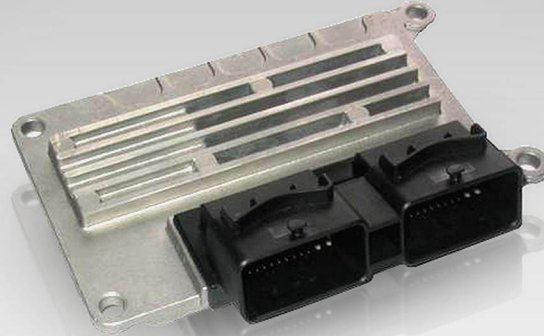


EURO 4 ECU

THE LATEST GENERATION OF PERFORMANCE ENGINE MANAGEMENT



Much more than just an engine management system....

Euro-4 is the latest generation engine management system from OBR Control Systems. It is one of the smallest and yet one of the most powerful ECU's for use on engines with up to 8 cylinders. Based on a modern production car ECU, Euro-4 is built to conform to the latest high automotive technology standards. The ECU is designed to form the centre of an integrated electronic system in a modern racing car and offers an extraordinary high level of features at an attractive price.

The price of the ECU includes full-option software specifications. All features and strategies are available to the user at no extra cost.

Features

Euro-4 can control normally aspirated, turbo charged and super charged engines. Additionally, the ECU can control a drive-by-wire operated throttle body, including safety features recognised from production cars.

It has built-in ignition drivers for both inductive and logically operated ignition coils and can control engines with up to 8 cylinders in full sequential fuel injection – or using staged injection in 4-cylinder mode.

It accepts up to 4 crankshaft and camshaft sensors, being either inductive or Hall effect. The ECU can control many bespoke variable camshaft timing systems found on modern engines.

Euro-4 has a total of 22 analogue and 13 digital sensor inputs. The advanced software allows the user to configure the ECU to accept inputs from many different sensors.

Euro-4 is also capable of running Direct Injection gasoline engines. DI software strategies allow control of both Bosch & Hitachi high pressure pumps with GM Ecotec & VW TFSI engine types software selectable. Other DI engine types will require scope traces of Crank, Cam & pump lobes to be submitted.

CAN Communication

Its extensive CAN (Controller Area Network) capabilities, having 2 individual CAN busses, ensures a simplified electrical installation combined with very advanced features. The data export includes a user-defined CAN configuration with 16 available CAN identifiers.

Data from eight additional sensors and commands from other CAN bus systems in the car can be imported via CAN.



Euro-4 is homologated by FIA for use in S2000 rally cars and in WTCC.

Data Recording

Data can be recorded using Euro-4's internal 8 Mb data logger. As well as ECU and sensor data channels, Euro-4 can also log data from other systems, such as external CAN modules, the OBR PCM and membrane switch panel.

Special Features

The ECU comes with a software package including advanced features, for example:

- Traction control using a target slip map with Sophisticated user controls.
- Programmable flat shift strategy.
- Paddle shift and air compressor control.
- Dual channel knock control.
- Use of 4 individual wide band lambda sensors.
- Driver adjustable launch control.
- Intelligent closed loop lambda fuel control.
- Variable camshaft timing
- VTEC control on Honda engines
- Variable inlet length control
- Stepper motor and IAV idle control.

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System Overview

- PowerPC microprocessor
- Up to 4 cylinders in full sequential mode;
- 6 and 8 cylinders in full sequential injection and wasted spark mode
- Ignition coil drivers for both inductive and logic operated coils, including plug-top coils
- Drive-by-Wire throttle PID control
- On-board data logging with 8 Mb memory
- Automatic fuel mapping
- Closed loop lambda control
- Closed loop boost control
- Variable camshaft timing with PID control strategy
- Idle speed control
- 2 selectable engine maps
- Control of direct injection engines with Hitachi and Bosch HDP5 fuel pumps.

General

- Very small and flat die cast aluminium enclosure
- 2 automotive main connectors with high pin density; 96 pins in total
- Dimensions 165 x 95 x 21 mm
- Weight 365 grams

Inputs

- 4 inductive or Hall effect engine speed and synchronisation sensor inputs
- 4 Hall effect wheel speed sensors
- 3 spare Hall effect / digital switch inputs
- 2 knock sensor inputs
- 1 direct NTK UEGO lambda sensor input
- 20 analogue 0..5 Volts external sensor inputs (can also be used as switch inputs)
- 1 built-in barometric air pressure sensor
- 8 spare analogue sensor inputs via CAN
- 4 Hall effect wheel speed sensors

Communication

- 2 x CAN 2.0B interfaces
- Standard EFI Technology or user defined CANdata export and import
- 16 CAN identifiers available for data export
- 2 CAN identifiers available for data import

Outputs

- 8 on-off fuel injector drivers
- 4 inductive ignition coil drivers
- 4 logic ignition coil drivers
- 8 multipurpose switches and PWM's
- 1 lambda sensor heater
- 1 H-bridge drive-by-wire throttle controller
- 1 four-phase stepper motor drive
- 4 independent 5.0 V sensor power supplies

Special Features

- Up to 4 wide band sensors can be used for closed loop fuel control
- Special engine type configurations including several motorcycle engines
- Control strategy for paddle shift and air compressor
- Control strategy for sequential gear change
- Traction control with target slip map
- Pit lane, launch and adjustable manual limiter
- Programmable firing order
- Comprehensive CAN features
- Special version available with fully encrypted software
- Special version homologated for use in S2000 rally cars
- Special version homologated for use in world touring cars

Conditions for use

- Temperature range -40...+125 degrees C
- Power supply 7..16 volts

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