



EFI Technology srl is a specialist company in advanced electronics for motor racing and high performance road cars. It is founded in 1985, initially to design and develop the early electronic engine management systems for Cosworth.

EFI Technology is specialised in developing and manufacturing electronic engine management systems. We manage and support the complete project, from customer specification through hardware and software development, to production and testing of final products.

Some of the customers and products (in random order) are:

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|---------------------------------|--|
| - <b>Magneti Marelli</b>        | Racing ECU's (CART, Formula 3, rally and touring cars, etc.), sensors and electronic devices for Formula 1, ignition coils, etc. |
| - <b>Cosworth Engineering</b>   | ECU's and high performance ignition systems (Formula 1 and CART).  |
| - <b>Lamborghini Automobili</b> | Diablo ECU (OBDII), air condition control, vehicle control etc.  |
| - <b>Lotus Cars</b>             | Esprit V8 ECU (full OBDII compliance).   |
| - <b>Kelsey Hayes</b>           | ECU's for ABS systems  |
| - <b>Team Roberts</b>           | Engine management system for GP500 bike.   |
| - <b>Aprilia</b>                | High performance systems for GP bikes.   |

EFI Technology offers, in addition, a standard range of racing products, including ECU's (capable of handling engines with 1..12 cylinder), ignition coils, sensors and wiring looms.

#### **EURO-1**



- 4 cylinder fuel injection and ignition with 2 built-in ignition high power inductive modules.
- Sealed plastic housing, 35 pin main connector and surface mounted devices.
- Full filtering of all inputs and outputs for maximum EMI protection.
- Programmable via CAN bus and full on-line mapping.
- Automatic fuel self-mapping using a lambda target map
- Closed loop lambda control for environmental control.
- Closed loop boost control.
- Closed loop idle speed control using either an idle air valve or a stepper motor.
- Speed-Density (manifold pressure versus RPM) or Alpha-N (throttle position versus RPM) mapping for aspirated or turbo charged engines.
- Electromagnetic or Hall effect speed sensor triggered by 60-2, 36-4 or 4+1 teeth.
- Built-in 1.0 or 2.5 bar MAP sensor.
- Full throttle gearshift.
- Programmable output for variable camshaft timing, variable inlet length etc.
- All sensor inputs are user configurable.

#### **EURO-96**

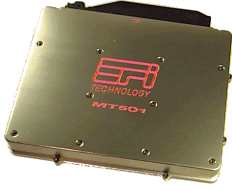


- 4-5-6 cylinder full sequential fuel injection and ignition with 3 built-in ignition high power inductive modules.
- Automatic selection between Peak-&-Hold and On/Off fuel injectors.
- Individual cylinder correction for injection and ignition.
- Sealed aluminium enclosure with a 55-pin military specification connector and surface mounted devices.
- Full filtering of all inputs and outputs for maximum EMI protection. All components are extended temperature range.
- Programmable via CAN bus and full on-line mapping.
- Data export via a current loop link.
- Automatic fuel self-mapping using a lambda target map
- Closed loop lambda control for environmental control.
- Closed loop boost control.
- Closed loop idle speed control.
- 2 complete calibration maps runtime selectable by the driver.
- Speed-Density (manifold pressure versus RPM), Alpha-N (throttle position versus RPM) or HFM (air mass flow versus RPM) mapping for aspirated or turbo charged engines.
- Electromagnetic or Hall effect speed sensor triggered by 60-2 teeth or EFI Technology standard configuration. Electromagnetic or Hall effect synchronisation sensor on camshaft.
- Full throttle gearshift.
- Programmable outputs for variable camshaft timing, variable inlet length etc.
- Launch and traction control.
- All sensor inputs are user configurable.



## Engine Management Systems

### MT-501



- 4-6-8 cylinder full sequential fuel injection and ignition with 8 built-in ignition high power inductive modules.
- 32 bit micro-controller technology.
- Staged injection in 4-cylinder mode.
- Knock control acting on individual cylinders and boost control.
- Individual cylinder correction for injection and ignition.
- Sealed aluminium enclosure with a 88-pin connector and surface mounted devices.
- Full filtering of all inputs and outputs for maximum EMI protection. All components are extended temperature range.
- Programmable via CAN bus and full on-line mapping.
- Communication via a CAN line, 1 serial and 1 K-line.
- Automatic fuel self-mapping using a lambda target map
- Closed loop lambda control for environmental control.
- Closed loop self-learning boost pressure control.
- Closed loop idle speed control.
- 2 complete calibration maps runtime selectable by the driver.
- Speed-Density (manifold pressure versus RPM) or Alpha-N (throttle position versus RPM) mapping for aspirated or turbo charged engines.
- Electromagnetic or Hall effect speed sensor triggered by EFI Technology standard configuration. Electromagnetic or Hall effect synchronisation sensor on camshaft.
- Full throttle gearshift.
- Programmable outputs for variable camshaft timing, variable inlet length etc.
- Launch and traction control.
- All sensor inputs are user configurable.

### EURO-12



- 4-5-6-8-10-12 cylinder full sequential fuel injection and ignition with 12 built-in ignition high power intelligent inductive modules.
- Latest 32 bit micro-controller technology.
- Automatic selection between Peak-&Hold and On/Off fuel injectors. Peak-&Hold currents are software programmable.
- Staged injection in 4 and 6-cylinder mode.
- 2 knock sensor inputs.
- Knock control acting on individual cylinders and boost control.
- Individual cylinder correction for injection and ignition.
- Sealed aluminium enclosure, twin SJT MIL specification connectors and surface mounted devices.
- Full filtering of all inputs and outputs for maximum EMI protection. All components are extended temperature range.
- Programmable via CAN bus and full on-line mapping.
- Communication via a 2 CAN lines, 1 serial and 1 K-line.
- Automatic fuel self-mapping using a lambda target map. Built-in controllers for twin UEGO sensors.
- Closed loop lambda control for environmental control.
- Closed loop self-learning boost pressure control.
- Closed loop idle speed control.
- 2 complete calibration maps runtime selectable by the driver.
- Speed-Density (manifold pressure versus RPM) or Alpha-N (throttle position versus RPM) mapping for aspirated or turbo charged engines.
- 3-dimensional mapping selectable in Speed-Density.
- Electromagnetic or Hall effect speed sensor triggered by 60-2 teeth or EFI Technology standard configuration. Electromagnetic or Hall effect synchronisation sensor on camshaft.
- 8 Mb. on-board hi-speed data logger.
- 2 MOOG valve drivers.
- 6 MFIO's (Multi Functional Input / Output) software configurable as inputs or outputs.
- Full throttle gearshift.
- Programmable outputs for variable camshaft timing, variable inlet length etc.
- Launch and traction control.
- 4 wheel speed sensor inputs.
- 2 additional frequency inputs i.e. for turbo speed.
- Numerous 0..5 Volts analogue inputs and NTC temperature sensor inputs.
- 4 power drivers
- All sensor inputs are user configurable.