



COMPLETE ENGINE CONTROL FOR 4 CYLINDER ENGINES AND MOTORCYCLE APPLICATIONS

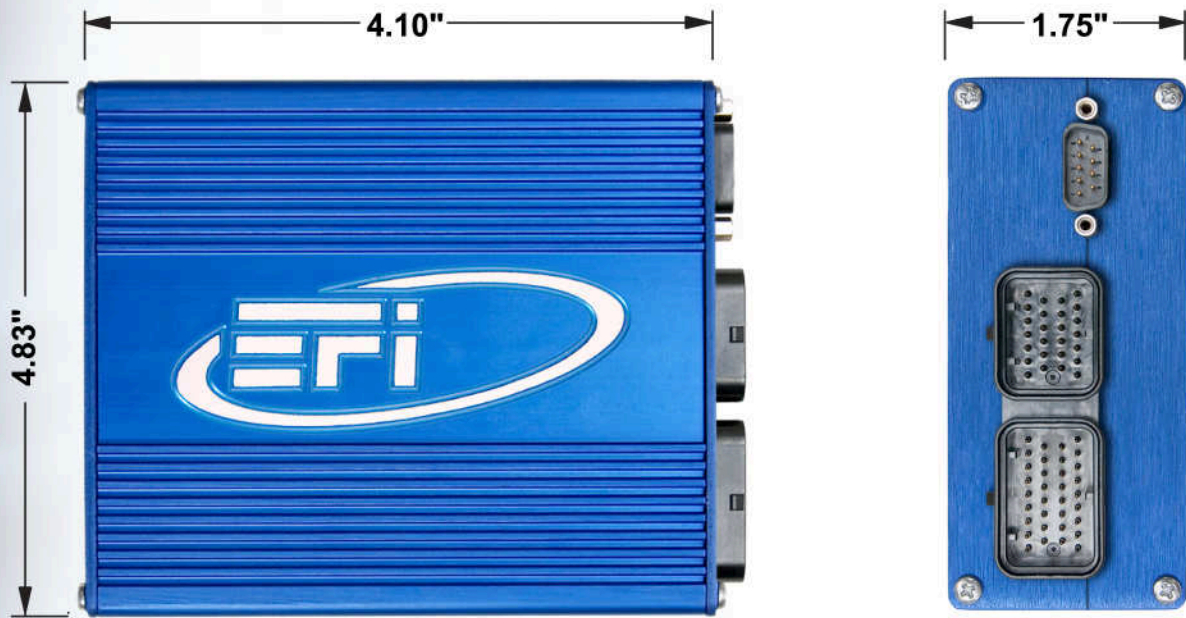
*Sequential injection and
direct ignition in a small
and lightweight package*

RACE 1.2 ENGINE CONTROL UNIT

STANDARD FEATURES

- 4 sequential injector drives (high impedance only)
- Distributor-less ignition with 4 coil outputs (direct or CDI)
- 13 analog inputs
- 4 digital inputs (hall or magnetic)
- 5 switch inputs
- Closed-loop lambda mapping and control
- Shift without lift function
- Driver selectable maps
- 6 auxiliary control outputs available
- 3 PWM controlled outputs
- Stepper motor output (IAC 4 wire)
- Progressive PWM NOS control
- PWM boost control output
- Air-Shifter valve control
- Data link to dashboard\data logger
- Compact and rugged design
- Plastic automotive main connectors
- 1 MB internal data logging (optional)
- User programmable self diagnostics
- 1 RS232 interface (115,200 kbaud)





RACE 1.2 ENGINE CONTROL *Technical Specifications*

SOFTWARE

- 3D fuel and spark maps
- All maps with adjustable breakpoints
- Programmable sensor calibrations
- Closed loop lambda control
- Unique self-mapping software
- Fuel and spark trims for each cylinder
- 3D injection phase map
- Sensor correction tables
- Closed loop boost control (5 maps)
- Shift - without - lift function
- Closed loop stepper motor control (IAC)
- Full control of progressive NOS and added fuel
- Programmable Quick-shift settings in each gear
- Adjustable internal logger sample rates

OUTPUTS

- 4 injector drives - high impedance
- 4 internal 8A coil drivers
- NOS valve control (PWM)
- Wastegate control (PWM)
- Lambda heater control
- Fuel pump control
- Air-Shifter valve control
- Shift lamp output
- Digital tach output (PWM)
- Stepper motor (4 wire)
- Data link to dashboard/data logger

DIGITAL INPUTS

- Engine speed
- Cam position
- Front wheel speed
- Rear wheel speed
- Beacon/NOS enable switch
- Air-Shift switch
- Clutch switch

ANALOG INPUTS

Throttle, Airbox P., ExBP, Air Temp, Water Temp, Oil Press, Fuel Press, Lambda, Gear position, Spare 1, Spare 2, Spare 3, Shift Sw., Battery(int), ECU Temp(int),

DIAGNOSTICS

- Error codes for all sensors and pickups
- Programmable error thresholds
- Sensor Min and Max values recorded
- Non-volatile diagnostic memory

OPTIONS

- Up to 1 MByte internal data-logger

OPERATIONAL

Enclosure:	Extruded Aluminum
Construction:	CMOS surface mount design
Environmental:	Silicone sealed
Connector:	Plastic sealed 34 + 26 main, 9 pin comm's
Dimensions:	4.10" x 4.83" x 1.75"
Weight:	.95 lbs
Power Supply:	8 to 20 volts transient protected
Power Consumption:	3 watts @ 14 volts
Operating Temp:	-40 to +85 deg C continuous
EMI Protection:	Exceeds 100 V/m >1GHz

Specifications subject to change without prior notice