



THE AFFORDABLE PROFESSIONAL ENGINE MANAGEMENT SYSTEM

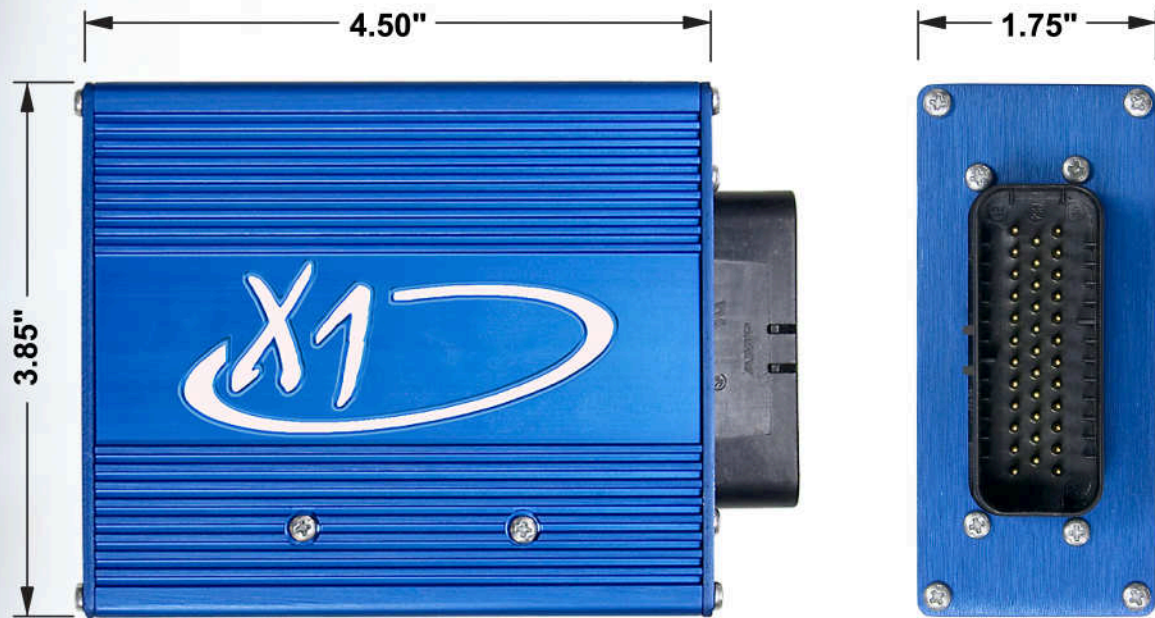
*The ideal solution for 4 cylinder
or 8 cylinder batch fired engines*

X1 ENGINE CONTROL UNIT

STANDARD FEATURES

- 4 injector/ignition drivers (can be any combination of peak and hold or direct coil)
- Digital tach output (can be used for CDI triggering)
- 9 analog inputs
- 3 digital inputs (hall or magnetic)
- 2 switch inputs
- Closed-loop lambda mapping and control
- Data link to dashboard/logger
- Fuel pump relay output
- Shift lamp output
- 1 PWM control (wastegate)
- Idle air control (IAC 4 wire)
- Compact and rugged design
- Plastic automotive main connector
- 512K internal data logger (optional)
- User programmable self diagnostics
- 1 RS232 interface (115,200 kbaud)





X1 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
- Shift - without - lift function
- Pit lane speed limiter
- ECU loadable with 2 maps
- Adjustable internal logger sample rates
- Programmable Engine Protection functions

OUTPUTS

- Up to 4 peak and hold injector drives
- Up to 4 internal 8A coil drivers
- PWM Wastegate control
- Lambda heater control
- Stepper motor (IAC 4 wire)
- Shift lamp
- Fuel pump relay
- Digital tach output
- Data link to data logger
- Dashboard data stream

DIGITAL INPUTS

- Engine speed
- Cam position
- Wheel speed

ANALOG INPUTS

Throttle, Battery, Airbox, Air Temp, Water Temp, Fuel Pressure, Oil Pressure, Lambda 1, Lambda 2, Mixture Sw, ECU Temp

DIAGNOSTICS

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

OPTIONS

- 512K internal data logger memory
- External NGK lambda sensor amplifier
- Mil-spec main connector

OPERATIONAL

Enclosure:	Extruded aluminum
Construction:	CMOS surface mount design
Environmental:	Silicone sealed
Connector:	Plastic 35 pin, sealed
Dimensions:	4.50" x 3.85" x 1.75"
Weight:	0.9 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 >1GH

Specifications subject to change without prior notice