

The Electromotive **TEC M** is a replacement motherboard for the Motronic ECU that controls many mid 90's BMW's. The TEC M is not an aftermarket ECU with an adapter. It is a custom built motherboard designed specifically as a direct replacement for your Bosch Motronic motherboard with built in support for BMW specific features such as VANOS and A/C control. Electromotive TEC M can even be installed so that it leaves no outward sign of its presence. All interfaces to your car are supported. Plug in a Electromotive TEC M and the factory tach, CEL and fuel consumption gauge all work and the reliable factory engine harness stays intact. You get the advantages of a modern race ECU without the lost time and expense engineering and building a custom harness or changing sensors.

The Electromotive TEC M replaces Motronic '413' and '506' ECU's, including EWS units. They are common on BMW M50 (E36 325, E34 525) or S50 (E36 M3) engines and are often used in the popular ODB2 (M52, S52) to ODB1 intake and harness performance upgrade.

Who can use a Electromotive TEC M? If you race in a series where you must manage different tunes for classification purposes (e.g. NASA GTS) the Electromotive TEC M is your ticket. Maybe you plan to build or already have a forced induction engine and need to take control of it. Or maybe you are one of those performance minded people who makes incremental changes and wants a platform that will grow with you. The Electromotive TEC M is an easy to implement solution for these projects and more.

- Direct bolt in replacement of Motronic '413' and '506' ECU's motherboard, including EWS units
- VANOS (Cam) Control based on RPM and throttle position
- Full - Sequential Injection
- Idle Air Controller (IAC) Support Built In
- MAF air flow meter Support
- Factory A/C control including WOT compressor disconnect

TEC M is based on the Electromotive TEC GT Race ECU and uses the same easy to use Windows based WinTEC4 software. Because of this it inherits the patented, multiprocessor, high resolution Ignition that Electromotive is famous for as well as most of the features of the Electromotive TEC GT.

- 16x16 Fuel and Timing Maps
- Coolant Temperature Based Ignition and Fuel Compensations
- Intake Air Temperature Based Ignition and Fuel Compensations
- EGO (O2 Sensor) Target Tables with Closed Loop Control
- Automatic VE tool built into software (learns fuel map on the fly)
- Hi and Low Impedance Injector Drivers Built In
- MAF and MAP Sensor Support (up to 7 bar)
- Warm-Up Enrichments
- Over Boost Fuel Cut
- 3 Rev Limiters
- Idle Control
- Fuel and Timing Trim by Cylinder
- Onboard Data Recording
- CAN Bus support to feed external data loggers (AIM MXL, XG Log, DL1, DL2)

Unused pins in the OEM Motronic are exploited in the Electromotive TEC M to create two general purpose inputs (GPI) and one general purpose output (GPO). They allow for additional advanced features to be built in such as:

- Boost Control (when using the MAP feature)
- Nitrous Control (RPM and Load Enable Nitrous)
- Nitrous Retard (Multiple Stage Timing Retard)
- Auxiliary Fuel Pump Control
- Fan Thermo Control
- Intake Runner Control
- Custom Controls Based on RPM and Load
- Shift Light
- Valet Switch
- Onboard Data Recording
- Timed Advance
- Timed Power Cut (no lift shift)
- Fuel Trim
- Advance Trim

Type	<ul style="list-style-type: none"> • PC programmable ignition + EFI
Coil Drivers	<ul style="list-style-type: none"> • 6 high-current inductive w/closed-loop dwell control
Injector Drivers	<ul style="list-style-type: none"> • 6 peak and hold drivers with variable current control • Sequential injection • Phased/Staged injection up to 12 injectors
General Purpose Inputs/Outputs	<ul style="list-style-type: none"> • 4 output only • 7 input only (1 with speed capability)
Dedicated Sensor Inputs	<ul style="list-style-type: none"> • Crank trigger • Cam trigger (optional) • MAF or MAP (user selectable) • Coolant temperature sensor • Manifold air temperature sensor • Throttle position sensor • Knock sensor • O2 sensor (wideband or narrowband)
Other Outputs	<ul style="list-style-type: none"> • 3 Wire IAC • BMW fuel consumption gauge • Tach • ECU Relay • O2 Relay • Fuel Pump
Data Logging	<ul style="list-style-type: none"> • Yes (on board or to PC)
CAN Support	<ul style="list-style-type: none"> • Yes
Supported Engines	<ul style="list-style-type: none"> • BMW 6-cylinder, sequential or phased injection

TEC^m

