

Delphi MT86 Powertrain Control Module

The Delphi MT86 Powertrain Control Module (PCM) is an electronic device that assists the control of a vehicle's engine management system and transmission management system by instantaneously measuring multiple events enabling "real time" adjustments of fuel, air, spark and gear shift to help the powertrain system operate efficiently, reliably and economically. The MT86 PCM offers manufacturers a flexible, full-function solution for engine and transmission control, especially for those programs that must meet stringent emissions and On Board Diagnostics (OBD) standards, including:

- U.S. PZEV and SULEV
- Korean KULEV
- Euro 3, Euro 4, Euro 5 and Euro 6
- European On Board Diagnostics (EOBD)
- U.S. OBD-I and II

The Delphi MT86 PCM features an up-integrated design that reduces weight and wiring and its small package size enables passenger compartment mounting. The robust design of the module also enables under hood mounting. Its flash programming provides in-vehicle memory updates.



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► Benefits

- High featured controller consists of two separate 32-bit, 80 MHz RISC microprocessors with up to 1.5 MB flash memory independent engine management and transmission control. This enables high-speed processing and in-vehicle memory updates, advanced valve train functions and compliance with new emissions and diagnostics standards around the world. Software and microprocessor can be configured to meet specific customer requirements.
- Small package size uses a standard FR4 circuit board enabling mounting flexibility and manufacturing alternatives. Waterproof design also allows packaging options.
- Separate engine and chassis connectors help optimize vehicle harness, systems development and assembly.
- Enables independent engine control module and transmission control module software management.
- Electronic fuel control enables 6-cylinder sequential fuel injection applications.
- Electronic spark control enables 6-cylinder sequential spark applications, with or without high current coil drivers in the PCM.
- Digital Signal Processing (DSP) provides knock control.
- Advanced valve train functions include:
 - Linear Exhaust Gas Recirculation (LEGR)
 - Charcoal Canister Purge (CCP)
 - Dual Independent Cam Phasing (DICP)
 - Variable Geometric Intake Solenoid (VGIS)
 - Wide Range Oxygen Sensor
- Up to 6-speed automatic transmission control with Linear or Pulse Width Modulation (PWM) solenoid control.
- Includes capabilities for cruise control, model-based algorithms and flexible fuel programs.
- Engine and chassis connector separation with 192-way (96 + 96) connection system.
- Idle control with DC motor electronic throttle control (ETC).
- Serial communication flexibility with Controller Area Network (CAN), KW2000 or GMLAN.

▶ Typical Applications

The Delphi MT86 Powertrain Control Module is designed to support most 6-cylinder multi-port fuel injection gasoline engine and up to 6-speed automatic transmission programs. The controller is compatible with compressed natural gas (CNG) and ethanol-blended fuel programs. It can be used with variable valve train (dual cam phasing and cylinder deactivation) and turbo engine applications.

▶ Performance Advantages

The Delphi MT86 Powertrain Control Module offers features that can help vehicle manufacturers meet demanding engine and transmission performance targets, high-level fuel economy requirements and stringent emissions regulations. The Delphi MT86 PCM helps the engine and transmission management system increase fuel economy and reduce emissions, contributes to smooth vehicle acceleration, enables enhanced cold weather start-ups and helps extend engine life.

Delphi's unique understanding of complete engine and transmission management systems and its full range of major component development capabilities contribute to superior component design and cost-effective systems.

▶ The Delphi Advantage

Delphi offers the benefits of more than 30 years' experience in high volume engine control module design and manufacturing. Delphi can provide customized IC design, manufacturing and analysis. Delphi can provide an engine control module or a complete system with software, algorithms, calibration and other options.

As a global leader in engine management systems, Delphi can help manufacturers meet emissions requirements, improve fuel economy and enhance performance. Delphi is a source for high value solutions and our systems expertise is built into every product. Delphi's flexible engineering approach encourages collaboration. And, Delphi has a thorough understanding of automotive markets around the world.