Delphi Supervisory Controller

The Delphi Supervisory Controller is an electronic device that coordinates the individual propulsion sources and energy storage in a hybrid electric vehicle. The controller provides coordination for the engine and transmission electronics, hybrid electric motor or motor/generator, electrical energy storage, driver inputs, and system communication protocol. It also provides a gateway function for communication busses, in particular between FlexRay™ and Controller Area Network (CAN).

Delphi Supervisory Controller

Benefits

- Powerful 32-bit microprocessor (Infineon TC1793) enables state-of-the-art software applications, high-speed data processing, in-vehicle memory updates, and application of advanced powertrain features. Software and microprocessor can be configured to meet specific requirements.
- Flexible, high-speed multi-channel communication busses provide serial communication flexibility with four CAN, two LIN, and one FlexRay™ interfaces. It also supports low-speed communication with a LIN interface.
- Independent "watchdog" for powertrain safety architecture to help meet "drive-by-wire" architecture requirements.
- Connection system tailored to meet customer requirements.
- Choice of mounting options for passenger compartment or under the hood. Under the hood mounting housing meets IP6K9K protection class (ISO 17750 Road Vehicles Environmental Conditions and Testing for Electrical and Electronic Equipment).
- Optional H-Bridge driver interface to a DC motor-type actuator.
- Software architecture based on Autosar standard for communication between software modules and hardware modules. Enables software module development by the customer or a third party. Full Autosar software development tool-chain is available from Delphi.

Typical Applications

The Delphi Supervisory Controller is designed to support a range of hybrid electric vehicle programs, including:

- Micro hybrids
- Mild or medium hybrids
- Full hybrids
- Plug-in hybrids

Availability

Engineering samples are available to vehicle manufacturers. Contact Delphi for further information.

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Performance Advantages

The Delphi Supervisory Controller offers vehicle manufacturers a high value solution for hybrid electric vehicle powertrain systems and electrical energy storage coordination. The controller allows integration of new HEV architecture into existing powertrain architectures.

With its composite material housing, aluminum backplate with plastic cover and integrated connector, the Delphi Supervisory Controller is designed to provide robust service over the lifetime of the vehicle.

Delphi's unique understanding of complete powertrain management systems and its full range of major component development capabilities contribute to superior component design and cost-effective systems. Delphi offers manufacturers valuable experience with this type of supervisory controller in various applications.

The Delphi Advantage

Delphi offers the benefits of nearly 30 years' experience in high volume powertrain control module design and manufacturing. Delphi can provide customized IC design, manufacturing and analysis. Delphi can also provide a powertrain 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.

Note: FlexRay™ is a trademark of Freescale Semiconductor, Inc.

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