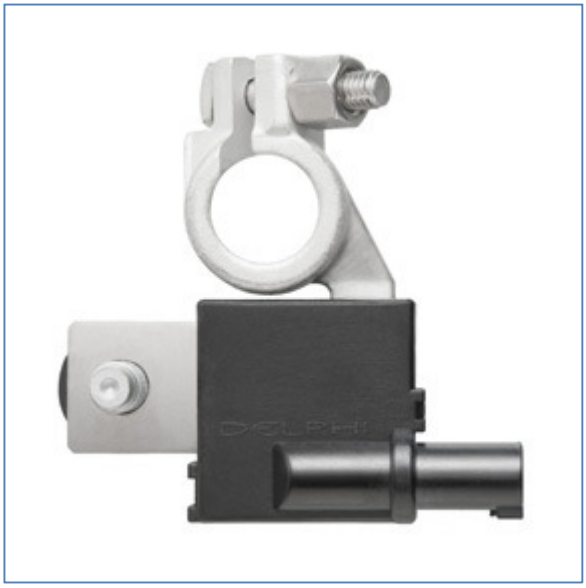
Delphi Battery Monitoring Device

The Delphi Battery Monitoring Device (BMD) measures elements of vehicle battery health to improve the overall performance and life of the battery while helping increase fuel economy. Delphi offers the BMD for commercial vehicle and passenger car applications.

Key to an active energy management system, the Delphi BMD is able to precisely measure three parameters essential to the determination of battery condition: current (I), voltage (V) and temperature (T). Additionally, the BMD accurately calculates vital State of Charge (SOC) and State of Health (SOH) through specialized software algorithms. All of this information is essential to properly control battery charging and to manage vehicle electrical loads.

The device features a Local Interconnect Network (LIN) or Controller Area Network (CAN) interface for data and diagnostic communication and can be mounted on the negative battery post or integrated into a battery electrical center.

Delphi Battery Monitoring Device for commercial vehicle applications



Delphi Battery Monitoring Device for automotive applications

Benefits

- Measures a battery's instantaneous IVT parameters
- Currents as high as 1500 amps are measured via a robust 100 micro ohm shunt
- Several options available, depending on customer needs for either automotive or commercial vehicle packaging
  - Automotive (12V)
    - Stand alone IVT battery sensor
    - BMD which integrates SOC and SOH algorithms
  - Commercial vehicle (12 and 24V)
    - Stand alone IVT battery sensor
    - BMD which integrates SOC and SOH algorithms
- Flexible serial data communication protocol options
  - CAN
  - LIN
- Sensor is integral to the energy management system
  - Enables load shedding, cycling, and managing of loads
  - Permits battery size reduction and mass savings
  - Helps reduce fuel consumption
  - Provides battery state to an active energy management system
- Provides a high level of accuracy, range of measurement and resolution when compared to alternate methods of determining battery parameters
- Helps ensure optimal battery performance, enabling more electrical/electronic content while ensuring sufficient power for starting an engine
- Can optimize back-up power systems when vehicles are at rest
- Precise accuracy of SOC and SOH provide secure data for battery management
- Helps improve fuel efficiency and extend battery life when integrated into a vehicle as part of active energy management system

- Helps commercial vehicles meet increasingly global stringent truck idling laws
  - Aids in complying to international no-idle regulations
  - Allows CO_2 emissions reduction to reduce greenhouse gas
  - Lessens a vehicle's overall environmental impact
- Can help prevent drivers from being stranded due to battery issues

Typical Applications

The Delphi Battery Monitoring Device is designed for use in the following:

- Passenger vehicles, including micro-hybrids with start/stop capability
- Commercial vehicles
- Off-road vehicles
- Marine industry applications

Performance Specifications

	Passenger Vehicles		Commercial Vehicles	
	Range	Accuracy	Range	Accuracy
Current:				
Low	± 1 A	± 10 mA	± 10 A	larger of ± 1% of reading
Operating	± 300 A	larger of ± 1% of reading	± 300 A	larger of ± 1% of reading
Starting	-1200 A to 300 A	larger of ± 3% of reading	-1500 A to 300 A	larger of ± 3% of reading
Voltage	6 V to 18 V	± 30 mV	6V to 18V	± 30 mV
			8V to 32V	± 50 mV
Temperature	-40°C to 85°C	± 2°C	-40°C to 85°C	± 3°C

The Delphi Advantage

Delphi Electrical/Electronic Architecture delivers power and signal distribution networks for today's increasingly complex vehicles. Delphi engineers act as master architects by using proprietary design tools and software to create a virtual model of a vehicle's E/E architecture — down to the last connector, electrical center, electronic module and wiring harness.

In addition to the Delphi Battery Monitoring device, Delphi can also provide battery cables, ring terminals and more, providing a comprehensive product offering from a single source. Delphi can evaluate the impact of various trade-offs to deliver a fully optimized E/E architecture system backed by Delphi technical centers and manufacturing facilities in 30 countries around the globe.

