What is the body control module in modern automobiles?

Steve Taranovich - June 26, 2017

The automotive central body control module (BCM) is a processor-based power distribution center that supervises and controls functions related to the car body such as lights, windows, security, door locks and access control, and various comfort controls. The central BCM also operates as a gateway for bus and network interfaces to interact with remote electronic control units (ECU) for other systems. Control of various loads comes directly from remote ECU via CAN/LIN communication or directly from the central body module. The BCM does not control any engine-related functions.

In order to accommodate the increasing number of functions on a shrinking central BCM, designers need to implement a higher level of integration with a scalable and flexible architecture to fulfill a broad spectrum of requirements.

Infineon has developed an excellent, scalable portfolio of new protected high side switches with their PROFET+2 high-side switches developed for 12V lighting and capacitive loads systems and High Current PROFET that will ensure the system’s reliability with short-circuit robustness.

They have a range of highly integrated products that combine various functions in one device such as multi-channel switches in the SPOC and SPIDER families, and System Basis Chips (SBC) for more functions in less space.

AURIX multicore microcontrollers enable the designer to integrate two applications in one device: BCM and gateway. This will enhance communication with lower power consumption and a selection of top security features.

The following is an example of a central body control module system diagram.
For a closer look at automotive power supplies, please see Vikram Patel's series of instructional automotive power blogs on Planet Analog. Here is his first one: Look Closer at Automotive Power Supplies.

Related articles:

- Meeting the power demands of battery supplied automotive electronics
- Power supplies for automotive start/stop systems
- Power Tips #75: USB Power Delivery for automotive systems
- Options Multiply in Auto Power Supply Design
- Hardware security modules unleash AUTOSAR