Chassis Systems Control
Pedal Travel Sensor

Introduction
Bosch is offering a pedal travel sensor concept (PWG) which meets the requirements of today's advanced braking systems. It is designed for systems that require a pedal travel signal in order to correctly interpret the driver's brake request. The sensor can be applied to (cooperative) regenerative or vacuum free braking systems in hybrid or electric vehicles, which contribute to a lowering fuel consumption and to a reduction of CO₂ output.

Due to its standardized and compact housing the pedal travel sensor can be easily integrated into various braking systems.

The pedal travel sensor is a modular designed travel/angle sensor. It consists of:
- a standardized, compact sensor housing
- an application specific magnet circuit

Due to the application specific magnetic circuit, the sensor can be used for different measuring ranges and easily integrated in different mounting locations such as the brake operating unit in the engine compartment or on the brake pedal box in the passenger compartment.

Customer benefits
- Simple integration in various braking systems
- Realization of electric brake functions
- Reduction in fuel consumption
- Small installation space required for sensor and magnetic circuit
Measurement principle
The contactless measuring principle for the pedal travel sensor is based on detection of a magnetic vector of a moving magnetic field. The intelligent, variable design of the magnet circuit allows applications for use in brake systems with translation as well as rotation of the moving unit.

Variants
When using the PWG12 the magnetic circuit is mounted to the moving part and the sensor housing to the static part of the brake operating unit. Therefore, no additional mechanics are required.

The PWG13 encloses a PWG12, as well as, an additional operating unit which contains the magnetic circuit and its own mechanics. Therefore, only one component must be integrated into the brake pedal box.