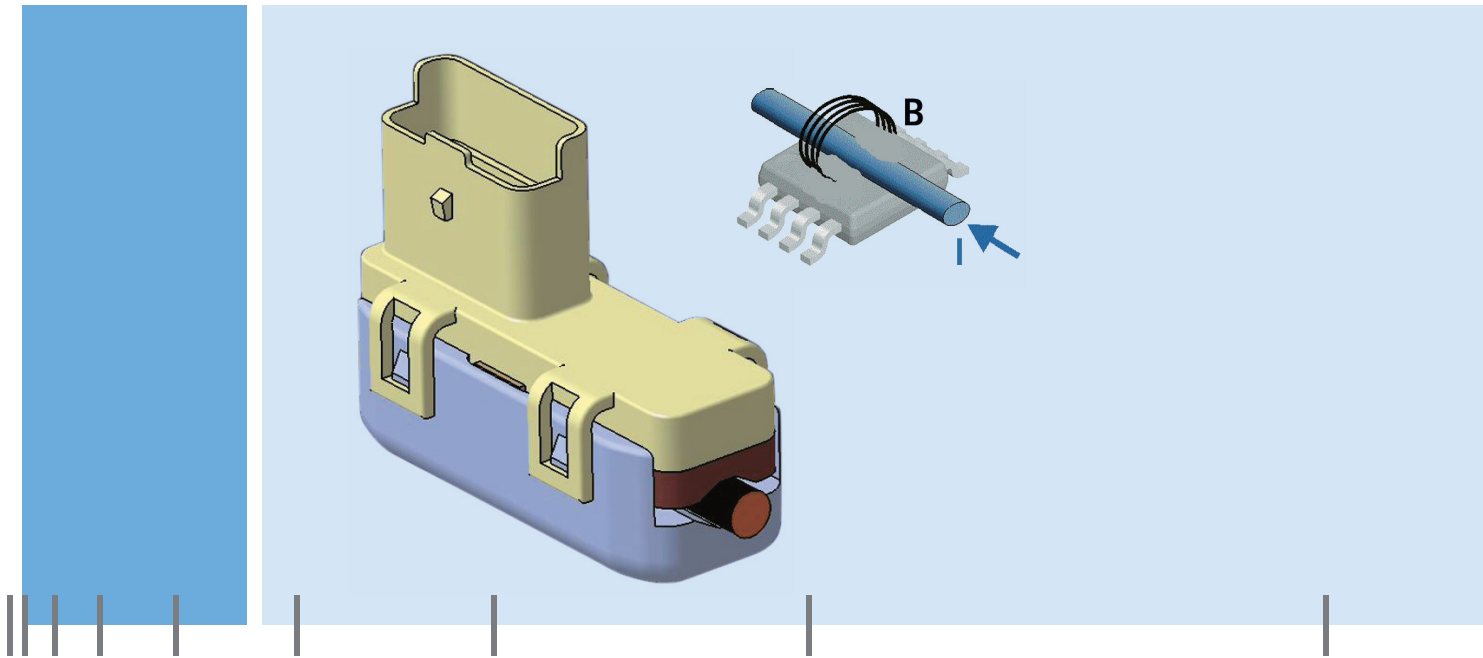


# Contactless Current Sensor



[www.siemensvdo.com](http://www.siemensvdo.com)

Our innovative sensors are helping customers meet increasing global performance requirements and emissions regulations. We have developed a family of automotive current sensors in order to fulfill the requirements of new coming systems such as starter generator, hybrid electric vehicles. Also, the increase of electrical power consumption in the vehicle justifies a closer monitoring of the available energy by means of battery energy management functionality.

## Operating principle

The magnetic field created by the current of the battery cable is measured with a linear, highly sensitive Hall Effect integrated circuit.

The contactless current sensor is fixed on the battery cable and is made of two parts. On the top side, there is the sensing element with its electronics. The lowest side is mechanically fixed to the top part with a flexible link. During final assembly the bottom side is flipped around the cable and snapped to the top part creating the appropriate retention force on the cable.

An alternative packaging solution is to integrate the sensor into the battery terminal.

## Product technical specifications

- | Contactless sensing of current and temperature
- | Hall effect
- | Measurement range :  $\pm 200\text{A}$   
(cranking current optional up to 1000 amp)
- | Accuracy :  $\pm 3\%$  (full scale output)
- | Temperature range :  $-40^{\circ}\text{C} \dots +85^{\circ}\text{C}$
- | Output : – PWM 100 Hz, 10 % - 90 %  
– Analog 0.5 V - 4.5 V
- | Temperature measurement  $\pm 3^{\circ}\text{C}$

## Product benefits

- | Current sensing for battery management
- | High mounting tolerances robustness
- | Integrated connector
- | Easy mechanical integration
- | Low supply current 10 mA
- | Possible integration into the battery terminal.