

# Gasoline Systems

## Transmission control unit



**BOSCH**

Invented for life

### Transmission control unit TCU



#### Customer benefits

- ▶ Robust design with improved EMC and extended temperature ranges
- ▶ High variability: scalable core performance, flash size, number and type of output power stages
- ▶ Improved accuracy of solenoid current control
- ▶ Variable software-sharing model

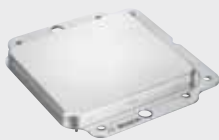
Automatic transmissions offer high driving comfort, free the driver of the distraction of manual shifting and actively contribute to increased transportation safety. Up-to-date automatic transmissions achieve a wide ratio coverage through a high number of gears. They have the ability to hold the combustion engine at the optimal operating range and thereby help to save fuel and reduce CO<sub>2</sub>-emissions.

In many transmissions the gearshift is carried out by a hydraulic control system which is actuated by an electronic control unit. By using intelligent control software the shift performance of a transmission is optimally adapted to the driving condition.

#### Task

By controlling the electrohydraulic or electromechanical transmission actuators the transmission control unit realizes comfortable and dynamic driving behavior and carries out the diagnosis of the transmission and its components.

### Integrated transmission control unit iTCU



1



2

Integrated transmission control unit iTCU  
for assembly in electronic modules

- 1 iTCU-S in metal housing: application with up to 150°C ambient temperature
- 2 iTCU-M in mold housing: very low profile and compact design

### **Transmission Control Unit TCU**



#### **Function**

The Bosch control units for automated transmissions evaluate the relevant sensor signals and with the help of their software convert this information into control commands for the transmission actuators.

The transmission control unit contains a 32 bit micro-controller, optimized application-specific circuits (ASICs), sensor inputs as well as power stages for triggering the actuators.

The modular software architecture facilitates variable software sharing models.

**Robert Bosch GmbH**  
Gasoline Systems

Postfach 30 0240  
70442 Stuttgart  
Deutschland

[www.bosch-automotivetechnology.com](http://www.bosch-automotivetechnology.com)

Printed in Germany  
292000P161-C/CCA-201309-En