CAN Newsletter Online

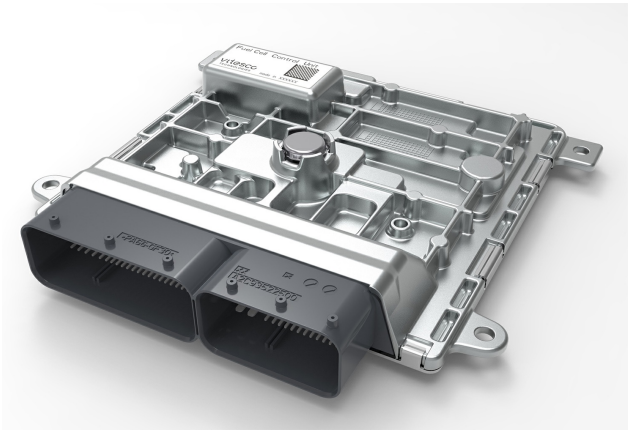
FUEL CELL CONTROLLER

For climate-neutral transportation

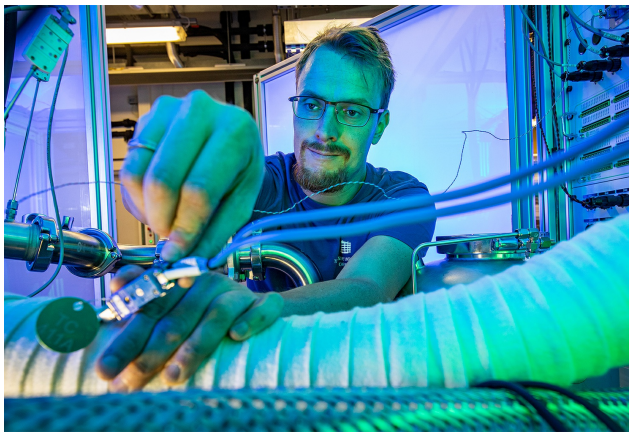
Continental's business division Vitesco Technologies developed the Fuel Cell Control Unit (FCCU). It communicates within the fuel cell system via CAN FD.

FCCU is the central control unit of a fuel cell system, which is expected to be used in various heavy-duty trucks and off-highway applications. The company developed the control unit for a German fuel cell manufacturer. Series production of the device will commence in the second half of this decade.

The control unit was developed in cooperation with the Chemnitz University of Technology, which provides one of the most modern H2 laboratories in Germany. "The special technical equipment at the laboratory is unparalleled in the European university landscape," says Prof. Dr. Thomas von Unwerth. "The heart of the new system is a high-performance test bench that accommodates permanent testing of powertrain performance up to 150 kW. In the future, the test bench can be converted up to 300 kW."



The FCCU uses CAN FD for communication within the fuel cell system (Source: Vitesco Technologies)



The technical equipment of the test bench is unique in the university landscape throughout Europe. A special feature is the permanent testing of drive powers of up to 150 kW (up to 300 kW in the future). (Source: TU Chemnitz)

Electric drivetrains with fuel cells are expected to be an important option, especially for larger vehicles and long-range commercial vehicles. In order to test the performance of the fuel cell under different conditions, the test bench is able to simulate changing environmental conditions and workloads. This is essential for assessing the performance of a hydrogen fuel cell. The tests are carried out at different temperatures, pressure conditions, and humidities. Additionally, simulation of different load requirements, such as weight or mountainous terrain can be fulfilled.

"The agility and flexibility with which we developed the FCCU, which is a prerequisite for success in this dynamic market environment, is combined at Vitesco Technologies with comprehensive expertise in industrialization built up over decades. This is why we will implement volume production with the same speed and quality as the development work", says Andreas Wolf, CEO at Vitesco Technologies.

Vitesco develops and manufactures powertrain technologies for electric, hybrid, and internal combustion vehicles. The product range includes electric drives, electronic control units, sensors and actuators, and exhaust-gas aftertreatment solutions. The companyâ€¯headquartered in Regensburg (Germany) employs ca. 40000â€¯people atâ€¯aroundâ€¯50 locations worldwide.

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