MicroAutoBox III
Next Generation of Compact In-Vehicle Prototyping
MicroAutoBox III
Compact and robust in-vehicle prototyping system

Highlights
- High computation power with quad-core ARM® processor
- Comprehensive bus and network support, including CAN, CAN FD, LIN, FlexRay, and (automotive) Ethernet
- Functional safety monitoring features

Application Areas
The MicroAutoBox III is the next generation of the established MicroAutoBox, a real-time system for performing fast, in-vehicle function prototyping. The powerful system can be added to or replace an electronic control unit, and lets you experience and test control functionalities in a real environment. MicroAutoBox III is ideal for many different rapid control prototyping applications either as a single demonstrator or for equipping entire test fleets, e.g.:
- E-mobility, electrification, and powertrain control
- Assisted, highly automated, and autonomous driving
- Chassis, body, and vehicle dynamics control
- Supervisory and domain control
- Bus/network gateway and monitoring
- Noise, vibration, position, and motion control

Key Benefits
The MicroAutoBox III uniquely combines high performance, comprehensive automotive I/O including bus and network support, and an extremely compact and robust design – all for a favorable price. The comprehensive software environment lets you configure, program, and operate the system easily and with minimum effort.

Variants
The MicroAutoBox III is available in different variants, which provide different numbers of analog or digital I/O channels, advanced bus and network interfaces, or even a user-programmable FPGA for very fast control loops as required in e-mobility applications. Furthermore, there are dedicated extensions, e.g., a MicroAutoBox III Embedded PC for ADAS/AD applications or an I/O module for engine control. All this makes the MicroAutoBox III a powerful and flexible development system for nearly all mechatronic in-vehicle applications, from autonomous driving to zero emissions.

- TI AM5K2E04 with four ARM® Cortex®-A15 cores (1.4 GHz)
- Memory: 2 GB DDR4 RAM, 64 MB flash memory
- Automatic flash-boot and fast boot option
- Three-level functional safety concept
- Gigabit Ethernet host and I/O interfaces
- Gigabit automotive Ethernet I/O interface
- Synchronization based on IEEE802.1AS or TSN; support for VLANs
- WLAN option
- USB mass storage interface for data logging
- Analog and digital I/O; bus and network interfaces (CAN, CAN FD, LIN, FlexRay, (automotive) Ethernet); I/O capabilities depend on MicroAutoBox III variant
- More extension and combination options:
  - Powerful FPGA-based e-drive and engine control
  - Embedded PC for Windows®, Linux and RTMaps applications
  - RapidPro signal conditioning and power stages
  - AUTERA, the advanced data logging and prototyping system for autonomous driving applications
- Shock and vibration tested (ISO 16750-3:2007)
- Operating temperature (passive cooling): -40°C up to 80°C (-40 up to 175 °F)
- Vehicle battery supply voltage: 12V, 24V, 48V
- Software tool chain: support of ControlDesk, ConfigurationDesk, Bus Manager, etc.

www.dspace.com