

MICROSAR CAN

AUTOSAR Basic Software Modules for CAN Communication

CAN (Controller Area Network) is in the automotive environment an established communication bus. In addition to the proven CANbedded communication stack, Vector now also offers an AUTOSAR conformant MICROSAR CAN package.

Properties and Advantages

The Basic Software Modules of MICROSAR CAN are intended for series-production. Together with the other products MICROSAR CAL, MICROSAR COM and MICROSAR EXT, they form a complete CAN stack. Each of these MICROSAR products contains several Basic Software Modules that you can integrate, either partially or fully, in your CAN stack.

All MICROSAR Basic Software Modules conform to AUTOSAR specifications 2.1 (3.0 too in Q2/2008). The CAN-specific modules also support further functions such as:

- > Access to customer-specific callbacks directly from MICROSAR CAN
- > Measurement and calibration via XCP on CAN
- > Mixed mode: Standard and Extended CAN ID
- > Code-optimized implementation of AUTOSAR functions

The MICROSAR Basic Software Modules are flexible. In their implementation, particular emphasis was placed on efficient memory utilization and short runtimes. Therefore, they form an ideal basis for optimizing your AUTOSAR CAN stack.

As a part of the seamless Vector AUTOSAR solution, you can combine the MICROSAR CAN Basic Software Modules with the rest of the MICROSAR Basic Software during integration. This gives you a consistent and reliable foundation for your ECU so that you can focus on the development of your application.

Application Areas

MICROSAR CAN includes all Basic Software Modules that a CAN stack needs for fundamental CAN communication. You can also use this stack to measure and calibrate AUTOSAR ECUs with XCP via CAN.

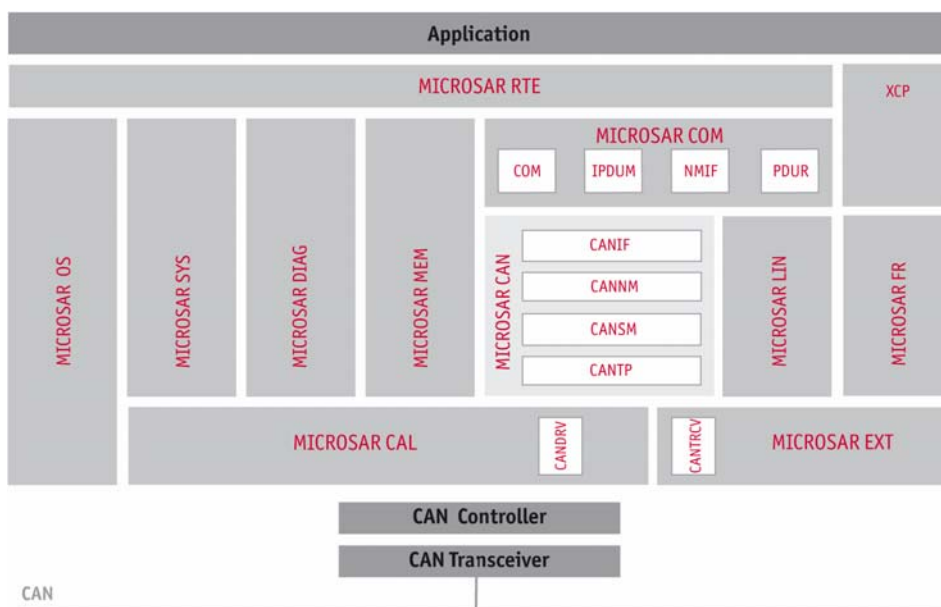
Note

To fully integrate a CAN stack in your application, you may need additional modules from the following MICROSAR packages: MICROSAR DIAG (DCM, DEM), MICROSAR SYS (DET, ECUM, COMM), MICROSAR RTE.

Functions

The following properties of the MICROSAR Basic Software Modules help to minimize the effort required in creating the application:

- > Pre-compile/Link-time/Post-build support
- > Development error detection (reporting to DET), and
- > Production error detection (reporting to DEM)



The MICROSAR CAN stack is Part of the MICROSAR Basic Software

Training Events

As part of our training program, we offer various courses and workshops on the topic of AUTOSAR and CAN conducted in our classrooms or at your company site.

For more information and the dates of our training events please visit: www.vector-academy.com

Contact and Availability

Our basic software modules for automotive ECUs are available for a wide range of commonly used microcontrollers. For additional information see: www.microsar.de or contact us directly: Tel.: +49 711 80670-400

MICROSAR CAN

- > NIF - The CAN interface abstracts one or more internal or external CAN drivers for the higher layers.
- > CANNM - The CAN Network Management module controls the sleep readiness of the ECUs participating in bus communication (as from AUTOSAR 3.0 no more division between CNM and CANNM exists).
- > CANSM (effective with AUTOSAR 3.0) - The CAN State Manager is responsible for bus-specific error handling and switching of PDU groups.
- > CANTP - The CAN Transport Protocol is used to send out larger quantities of data via the CAN bus. It segments and de-segments these data and controls the data flow.

Other relevant MICROSAR Products with separate Datasheets:

- > MICROSAR CAL (CANDRV) - MICROSAR CAL is implemented specifically for the microcontroller and supports all properties that are hardware specific.
- > MICROSAR COM - This package supports signal-based communication between different ECUs.
- > MICROSAR EXT (CANTRCV) - The CAN transceiver driver controls the ECU's external CAN transceiver.

Configuration

The configuration of the modules is performed using GENy of the MICROSAR Configuration Suite and an "ECU Configuration

Description". In addition, GENy supports the proven DBC format that can be produced with DaVinci Network Designer CAN. This forms a bridge between the CANbedded and AUTOSAR worlds.

Product Components

The following items are supplied with MICROSAR CAN:

- > Command line based Generator (can be integrated in MICROSAR Configuration Suite)
- > Source or object files and C header files, depending on the license
- > Documentation/Operating instructions/Read me
- > Sample programs

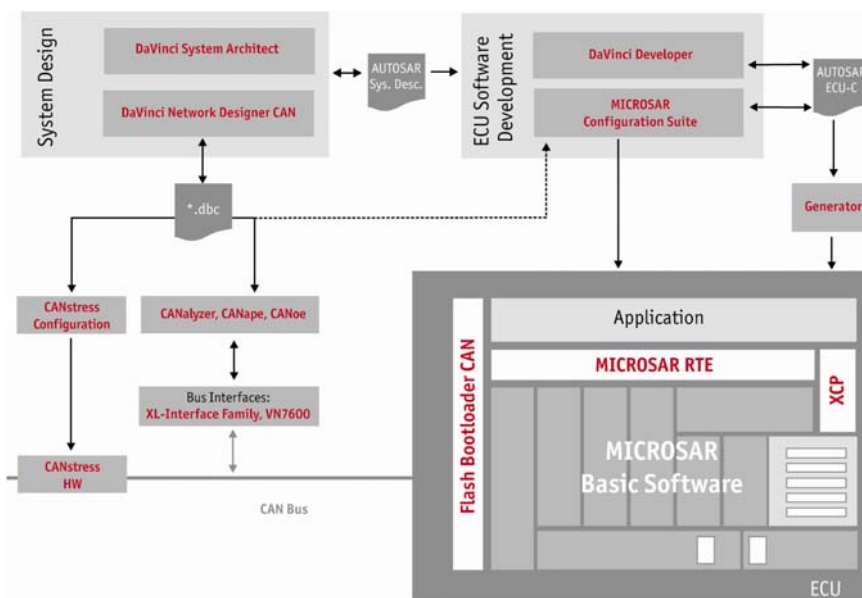
Licence and Maintenance

The MICROSAR licensing and maintenance model applies.

Additional Services

We can offer you these supplemental services:

- > Consultation on system design
- > Integration of Basic Software in existing ECUs
- > Extension of standard modules according to customer wishes
- > Hotline, special workshops and training events on the topics of embedded software and AUTOSAR



Vector offers a comprehensive Lineup of Products and Services for your CAN Projects