

MICROSAR LIN

AUTOSAR Basic Software Modules for the Local Interconnect Network

LIN (Local Interconnect Network) is a cost-effective serial communication system with low transmission rates for distributed electronic ECUs in motor vehicles. The MICROSAR LIN package helps you implement the LIN standard specified by the LIN Consortium.

Properties and Advantages

The Basic Software Modules of MICROSAR LIN are intended for production use. Together with the products MICROSAR CAL and MICROSAR COM they form a complete LIN stack. Each of these MICROSAR products contains several Basic Software Modules, which you can integrate - either individually or as a full package - into your LIN stack.

All MICROSAR Basic Software Modules conform to AUTOSAR Release 3.0. The LIN-specific modules also support other functions such as:

- > Using LIN 2.1 in addition to LIN 2.0 which is specified in AUTOSAR,
- > Multi-channel LIN configurations.

When they were implemented, special emphasis was placed on efficient memory utilization and short execution times, so they are an ideal foundation for your AUTOSAR LIN stack. The configuration time of all MICROSAR Basic Software Modules is user selectable, because the Vector Basic Software Modules are pre-compile, link-time and post-build capable (in accordance with AUTOSAR Configuration Conformance Classes CCC1 through CCC3).

You can combine the MICROSAR LIN Basic Software Modules with the remaining MICROSAR Basic Software Modules of the seamless

Vector AUTOSAR solution. This provides a reliable foundation for your ECU software so that you can focus on developing your application.

Application Areas

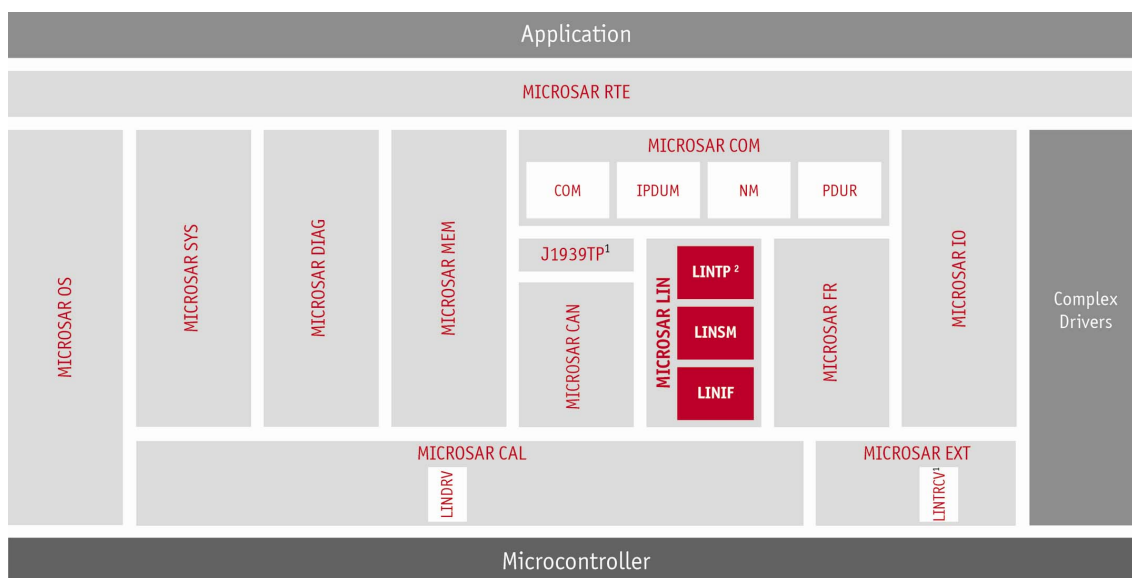
MICROSAR LIN contains all of the Basic Software Modules that your application needs for basic LIN communication.

Functions

MICROSAR LIN

- > LINIF - The LIN Interface has a number of hardware-independent access functions that convert PDUs of higher communication layers into LIN frames. It also takes over Network Management tasks and handles initialization of the LIN drivers.
- > LINTP - The LIN Transport Protocol handles the transfer of larger data packets (handling of *MasterRequest* and *SlaveResponse* messages). It is integrated into LINIF according to AUTOSAR and is available as an option.
- > LINSM - The LIN State Manager switches the Schedule Table and operates the LIN interface for Sleep and Wakeup.

To fully integrate a LIN stack into your application you need other modules from the following MICROSAR products: MICROSAR DIAG (DCM, DEM), MICROSAR SYS (DET, ECUM, COMM) and MICROSAR RTE.



**MICROSAR LIN
modules**

¹ Available extensions for AUTOSAR 3.0
² Option included in LINIF

Training Courses

We offer various training courses and workshops for AUTOSAR and for LIN in our classrooms or at your business site.

For further information on individual training events and dates on the Internet go to: www.vector-academy.com.

Contact and Availability

Our LIN Basic Software Modules for automotive ECUs are available for a wide variety of currently used microcontrollers. You can obtain additional information at www.micosar.com or by inquiry

E-mail: embedded@vector-informatik.com

Telephone: +49 711 80670 400.

Other relevant MICROSAR Products

- > MICROSAR CAL (LINDRV) - The controller-specific LIN driver provides a hardware-independent interface to the LIN hardware to be used by the LIN interface LINIF.
- > MICROSAR COM - This product supports signal-based communication between different ECUs as well as signal and PDU routing.
- > MICROSAR EXT (LINTRCV) - The Transceiver-Driver provides an interface for driving an external transceiver chip. This is a supplement to AUTOSAR 3.0.

Configuration

The MICROSAR LIN modules are configured using the configuration tool GENy (included in the DaVinci Configurator Pro delivery) and the AUTOSAR ECU configuration description, which is based on the AUTOSAR system description. The network description in LDF format is also supported. The Network description is created using DaVinci Network Designer from Vector.

Scope of Delivery

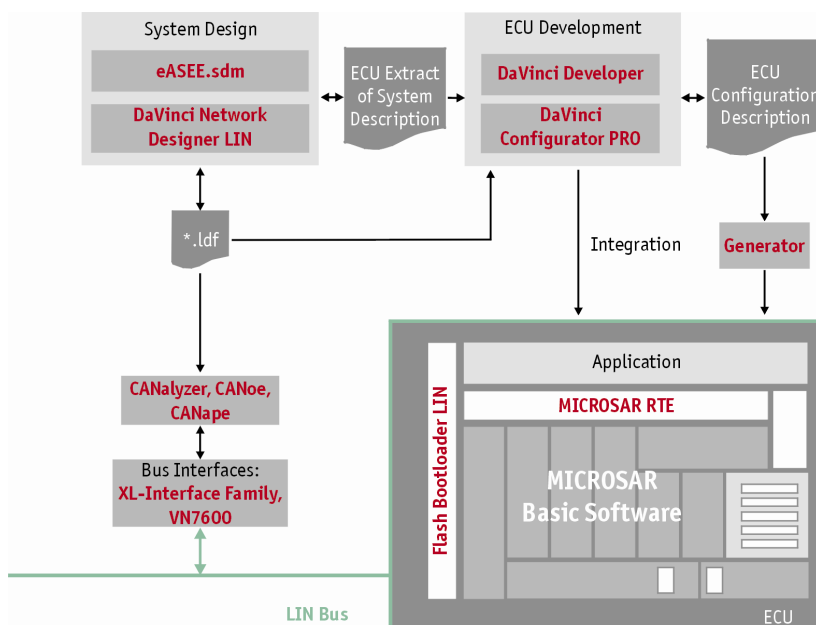
- > DaVinci Configurator Base as a Generic ECU Configuration Editor (GCE) as well as a command line-based generator
- > Libraries, C header files, optionally with source code
- > BSW Module Description, makefiles and sample programs
- > Documentation/operating instructions/Readme file

License

Vector offers flexible licensing customized to your individual requirements.

Optional Services

- > Consultation in system design
- > Integrating the Basic Software into existing ECUs
- > Extending standard modules according to your needs
- > Developing of customer-specific AUTOSAR Software Components (SWC)
- > Hotline, special workshops and training courses on the topic of embedded software and AUTOSAR



Vector offers a comprehensive line of products for your LIN projects