

PLCcore with CODESYS

32-bit System On Module with Linux and IEC 61131-3

The SYS TEC electronic PLCcore is a state-of-the-art System On Module (SOM) integrating a production-ready hardware and a comprehensive software environment for industrial automation technology. Using SYS TEC electronic PLCcore technology enables product engineers to bring new ideas to market in the most timely and cost-efficient manner.

PLCcore-9263

32-bit ARM based System on Module

Shared (Memory) Process Image

Linux OS with CODESYS V3.5

CANopen and Ethernet

Target Visualization



CANopen®

ETHERNET
POWERLINK

The PLCcore-9263 combines an industry-proven hardware platform with the market-leading IEC 61131-3 programming environment - CODESYS. The pre-installed CODESYS runtime system includes CANopen and Ethernet connectivity. Open interfaces allow for extending the run-time system with own functionalities. This makes the PLCcore a most flexible controller platform.

Due to the comprehensive IEC 61131-3 technology and the flexibility of the controller platform a wide field of embedded system design is possible. Product designers may consider using the PLCcore as base for development of state-of-the-art Programmable Automation Controllers or dedicated special purpose controls in machine automation.

Benefits for product management:

- Save a significant amount of development time - Your product development starts with a ready-to-use embedded hardware platform with Linux and integrated IEC 61131-3 programming system.
- Reduce your design complexity - The high-speed circuitry design is already done and tested. This saves valuable development time and gets your final product shippable to customers earlier.
- One core many product variations. Based on the very same PLCcore customers can integrate different I/O drivers and application code using the Shared Process Image.
- No extra charge for CODESYS development licenses when using the Shared Process Image for own feature extensions.
- Free re-distribution of CODESYS Automation Suite to end customers.
- License production of the PLCcore is available upon request.

Benefits for product development:

- Insert-ready embedded ARM platform
- Target-optimized Linux operating system
- Pre-integrated CODESYS V3.5 runtime environment
- Shared Process Image for integration of own, user-specific C/C++ applications and I/O drivers
- CANopen and Ethernet connectivity
- Integrated Target Visualization (depending on hardware support)
- Comprehensive Development Kit with Support Package and Development Environment on DVD



About SYS TEC electronic

SYS TEC electronic GmbH is a system house for distributed automation technology. We provide a comprehensive service from consulting to OEM integration.

Founded in 1990 in Germany SYS TEC electronic has more than 20 years experience in customized development of microcontroller systems and industrial communication.

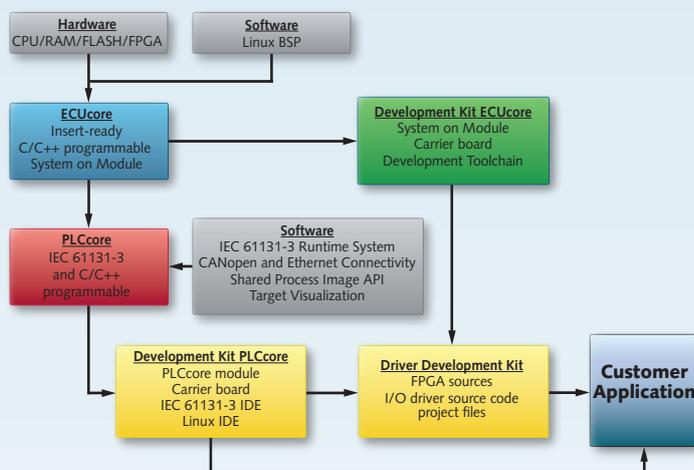
The PLCcore concept

The SYS TEC electronic ECUcore module is an microprocessor sub-assembly combining all necessary hardware components and a pre-installed platform-optimized Linux on an insert-ready System on Module (SOM). Product developers may easily develop and integrate own C/C++ application based on the development environment delivered with the ECUcore Development Kit.

When adding an IEC 61131-3 runtime system (i.e. CODESYS) to the ECUcore, then it becomes a PLCcore. The IEC 61131-3 RTS on the PLCcore includes CANopen Manager and Ethernet connectivity, an optional target visualization (depending on the hardware support available on the ECUcore) as well as the Shared Process Image API.

The Shared Process Image API was developed by SYS TEC electronic to provide an abstract and target independent application interface to integrate user-written C/C++ application or I/O driver code. This allows for creating customized application-specific firmware versions without the need for buying an own CODESYS development license. The Shared Process Image technology is supported by all PLCcore modules since 2007.

Based on the PLCcore Development Kit product developers can develop own C/C++ applications and integrate those with the IEC 61131-3 runtime system using the Shared Process Image API. In addition the PLCcore Development Kit includes an IEC 61131-3 Development System to develop IEC 61131-3 applications on the PLCcore in all 5 programming methods (IL, ST, CFC, LD, SFC). For OEM that develop PLCcore-based products the redistribution of the IEC 61131-3 development system to their end-customers is free-of-charge. In case your product design requires a customized Linux (Kernel) I/O driver or you need to make modifications on the on-board FPGA and want to use SYS TEC electronic VHDL sources, then the Driver Development Kit helps product developers to accelerate their work by using pre-tested source code functionality from SYS TEC electronic.



Customer-focused services

With using the Shared Process Image provided with the Development Kit or using the source code provided with the Driver Development Kit, product developer have a convenient way to integrate custom-tailored software functions and own I/O drivers. If you application requires further optimization on the hardware level itself, then SYS TEC electronic offers comprehensive services to scale the PLCcore module to best fit to your needs.

At order quantities as low as 100 units, SYS TEC electronic can customize board configurations on a component level - such as removing unnecessary components and scaling memory densities - to meet your cost objectives and technical requirements best. For higher production volumes, please feel free to discuss with us a one-time, royalty-free design license buy-out of the PLCcore circuitry in the form of schematics and bill of materials for unrestricted use in your own embedded hardware development.

Available products with CODESYS support

PLCcore-9263, CODESYS

ARM9-based system on module with pre-installed Linux OS and integrated CODESYS V3.5 runtime system

PLCcore-9263, CODESYS, HMI

ARM9-based system on module with pre-installed Linux OS and integrated CODESYS V3.5 runtime system and target visualization

PLCcore-9263 CODESYS Development Kit

PLCcore-9263, CODESYS, HMI with Development Board, 5.7" QVGA display Linux Board Support Package, Linux IDE, CODESYS Automation Suite for Windows

CODESYS support for other ARM-based ECUcore modules is available upon request



Learn More



Whitepaper PLCcore Technology
www.systec-electronic.com/plc-whitepaper



System on Module Overview-Flyer
www.systec-electronic.com/som-overview

Ordering Information

3390087	PLCcore-9263 - CODESYS
3390088	PLCcore-9263 - CODESYS, HMI
KIT-166	Development Kit PLCcore-9263, CODESYS
SO-1111	Driver Development Kit PLCcore 9263

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