

PLCcore-1130

**IEC 61131-3
AND C/C++
PROGRAMMABLE
SINGLE BOARD
COMPUTER**

Order Information

PLCcore: 3390008, 3390009

Contact: sales@systec-electronic.com

Where Embedded meets IEC 61131-3

The PLCcore-1130 is an insert-ready OEM-able single board computer running the real-time operating system PXROS-HR. A ready-to-use IEC 61131-3 runtime kernel together with a CANopen manager are both pre-installed. This makes the PLCcore-1130 an ideal solution for own control applications. The module achieves a high performance of 700 µs / 1000 IL commands.

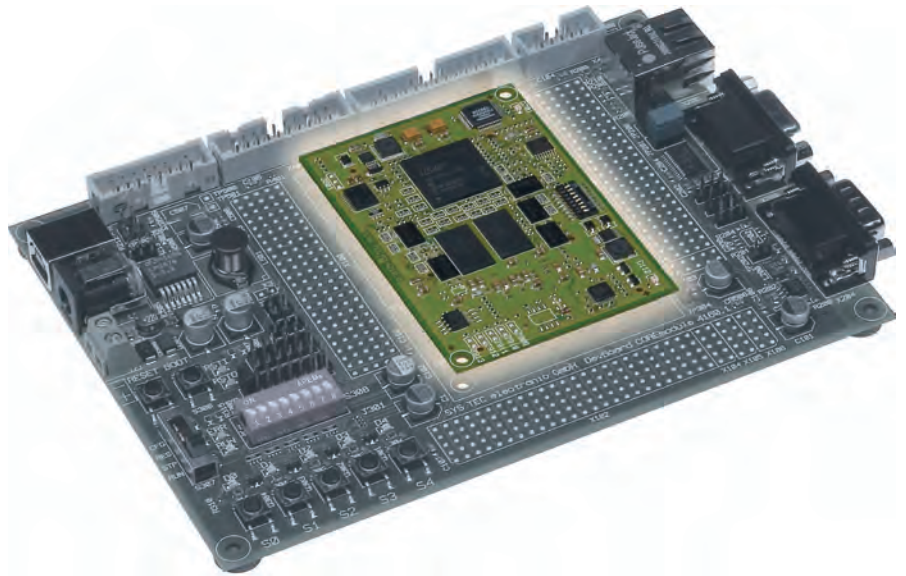
The design advantage: Measuring just 78 x 54mm, the PLCcore-1130 incorporates the CPU kernel, SDRAM, Flash memory, 128 I/O lines and communication interfaces. Furthermore, this small module also provides voltage regulation, programmable logic as well as other commonly-used peripherals - all in a compact form factor, multi-layer PCB with enhanced EMI protection.

PXROS Real-time OS: The PLCcore-1130 comes with the real-time operating system PXROS-HR. It includes all drivers, standard network services and a Flash file system. About 64 MiB Flash space is available to the user for own PLC and/or PXROS-HR applications.

**Designed
For:**

PXROS-HR safety applications
Motion control
**High-speed measurement
and monitoring devices**

SYS TEC
ELECTRONIC



High-performance PLCcore running PXROS-HR

Built-in IEC 61131-3 runtime kernel with CANopen manager: The PLCcore-1130 features an IEC 61131-3 runtime kernel which allows to execute and debug applications written in IEC 61131-3. The included download manager makes the module in-application programmable, using the Ethernet or CAN interface. No additional programming equipment is necessary. The PLC runtime kernel includes a fully functional CANopen manager and function blocks for accessing on-board peripherals. A comprehensive function block library provides access to all communication interfaces and to higher-layer protocols such as CANopen including CANopen manager services.

Flexible I/O configuration: The PLCcore-1130 allows for flexible adaptation of I/O configuration according to customer requirements. This does not only include the powerful on-board FPGA but also permits using the I2C, SPI or Address-/Data-Bus to access application-specific I/O peripherals.

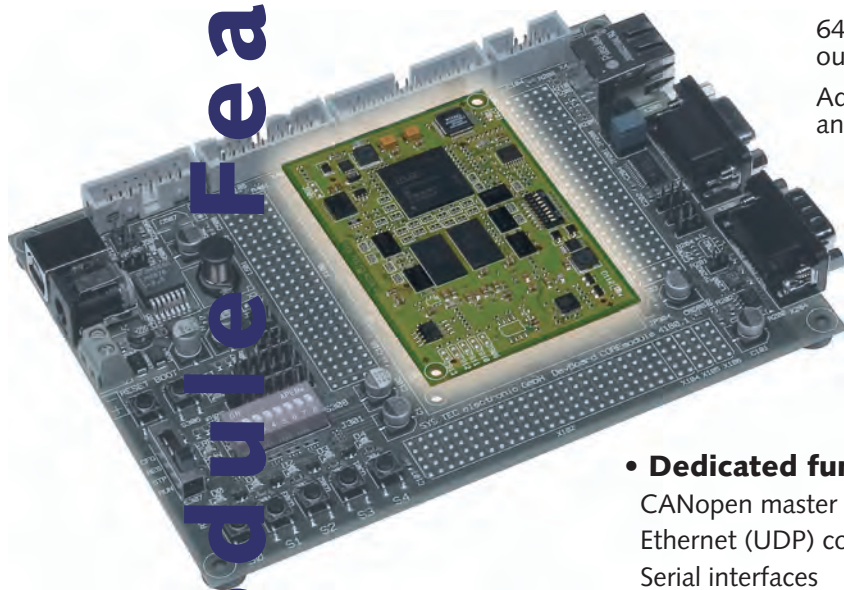
PXROS-HR runs tasks in separate "sandboxes". Those are independent and isolated from each other. A crash of one of those tasks cannot impair the integrity of the overall system.

Development Kit PLCcore-1130



The PLCcore-1130 was designed to be plugged onto a carrier board. Both, the module and a development board as a reference carrier board, are included in the Development Kit PLCcore-1130. The carrier board contains the I/O connectors required for immediate start-up of the module as well as other interface circuitry not provided on the SBC module itself. The Development Kit provides an excellent platform to evaluate controllers, develop software as well as specify and determine the feasibility of new embedded designs based on the PLCcore-1130. Additionally, an I/O Extension board is available for the PLCcore-1130 and adapts all digital in- and outputs via pushbuttons and LEDs.

Module Features



- **Hardware:**

- 32-bit Infineon TC1130, 150MHz, MPU
- 64 to 128 MiB user application memory
- FPGA for flexible I/O configuration with 128 I/O lines
- On-board RTC and Temperature sensor
- 3.3 VDC Single-voltage power supply

- **Software - IEC 61131-3:**

- Running PXROS-HR real-time operating system
- IEC 61131-3 runtime kernel pre-installed
- Programmable in IEC 61131-3 as well as in C/C++
- Fully featured CANopen Manager with automatic node configuration (CiA 302 and CiA 314)

- **I/O configuration:**

- 64 Digital inputs and 64 Digital outputs on-board (FPGA-backed)
- Additional peripheral units via 2x SPI and/or 2x I2C connectable

- **Communication interfaces:**

- 1x 10/100 Mbps Fast Ethernet, on-board PHY
- 4x CAN2.0B with CANopen manager
- 3x UART

- **Dedicated function blocks for:**

- CANopen master and slave services
- Ethernet (UDP) communication
- Serial interfaces
- Real Time Clock (RTC)
- SD-Card interface
- Non-volatile memory

- **High-performance:**

- 700 μ s / 1000 IL commands
- Boot-time 1 second after Reset

- **Operating temperature range:**

- Industrial: -40°C to +85°C