IXXAT®

Econ 100 – Embedded PC

- Multi-protocol support
- Modular and expandable
- Easy to program

HMS Connecting Devices™

Typical Industries

Highlights

- Easily expandable to support various fieldbus and industrial Ethernet protocols
- Highly customizable to meet the requirements of your application
- Easy programming using Soft-PLC or Application Development Kits
- High communication performance for real-time applications
- Analog/digital IOs for direct connection of sensors and actuators

IXXAT Econ 100 is a stand-alone embedded PC for real-time Industrial Ethernet, suitable for many applications – from small material handling devices to complex robot-based systems. It combines the machine control expertise from IXXAT with the fieldbus and industrial Ethernet capabilities of HMS' Anybus technology in a unique multi-protocol control solution.

Unique concept

The IXXAT Econ 100 is a powerful ARM-based embedded PC for top-hat rail mounting with Linux operating system. Its unique modular concept enables you to easily extend the existing interfaces and functions, allowing to adapt the device to your specific requirements. Customized gateway and control solutions can therefore be swiftly and easily implemented for a variety of different fieldbus and industrial Ethernet standards.

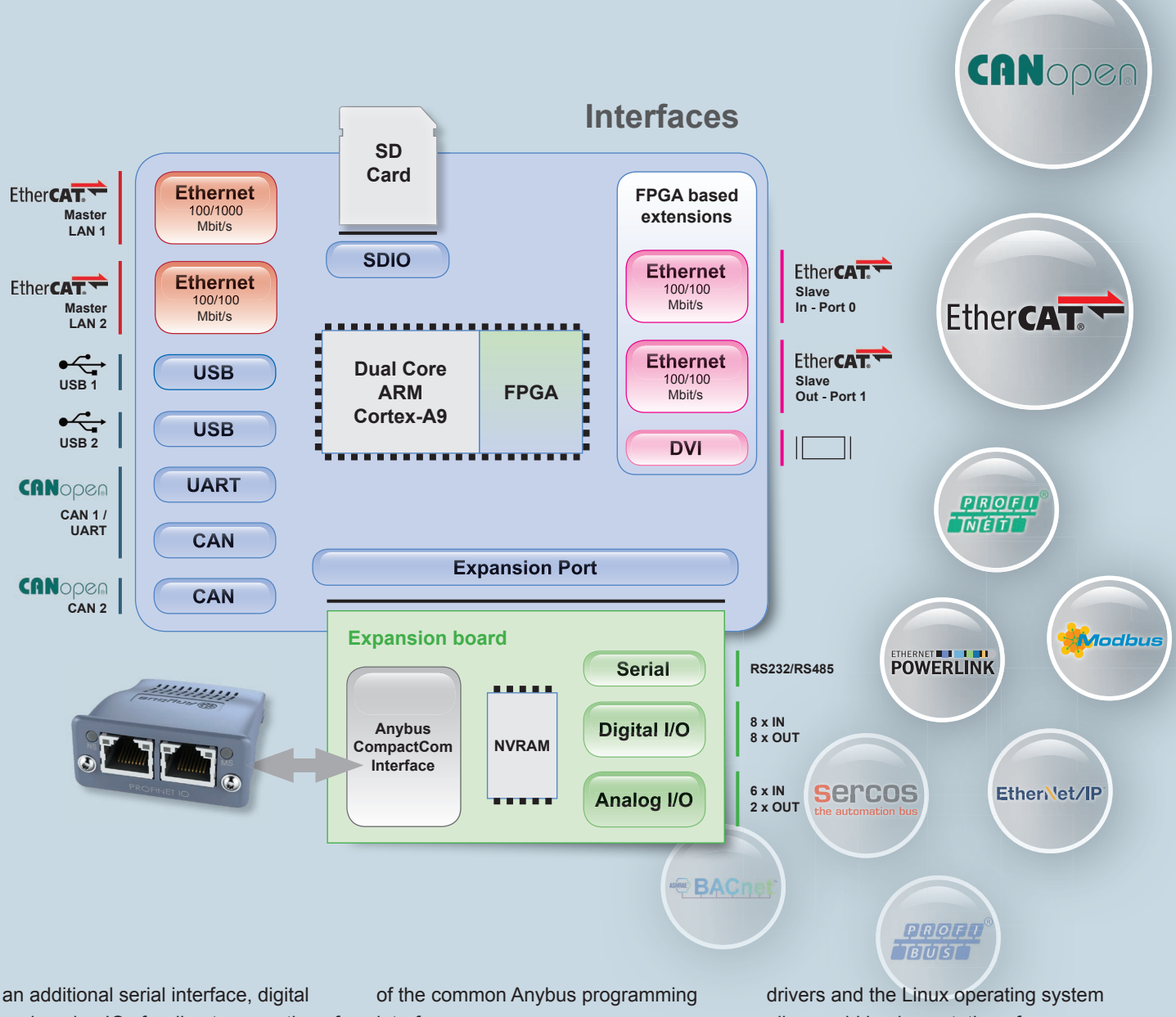
Designed to be used in many fields

The powerful CPU, industry-grade memory, the rugged metal casing as well as the fanless design with an extended temperature range of -40 °C to +70 °C, ensures that the Econ 100 matches the requirements of various application fields. In addition to the standard version, the Econ 100 is also available as a board-level product which can be integrated in existing customer devices. OEM versions with specific hardware adaptations and adapted application variants can be developed by HMS on request.

Easily expandable

The basic version of the device has each two Ethernet, CAN and USB interfaces. Expansion of interfaces and functionality can be achieved by using the expansion interface or the on-board FPGA.

Expansion board
The expansion board is available as an option. By using the expansion board, the IXXAT Econ 100 can be equipped with



an additional serial interface, digital and analog IOs for direct connection of sensors and actuators as well as with an Anybus CompactCom interface. Furthermore, the NVRAM available on the expansion board provides data security. Critical applications, where the last operating state with all process variables must be retained in case of power failures, can be implemented by using the 512 kB NVRAM.

Multi-protocol support

Using the expansion board, the IXXAT Econ 100 can be easily equipped with HMS Anybus CompactCom modules. CompactCom modules are available for all popular fieldbus and industrial Ethernet networks and can be easily interfaced from the Econ 100 application software by means of the common Anybus programming interface.

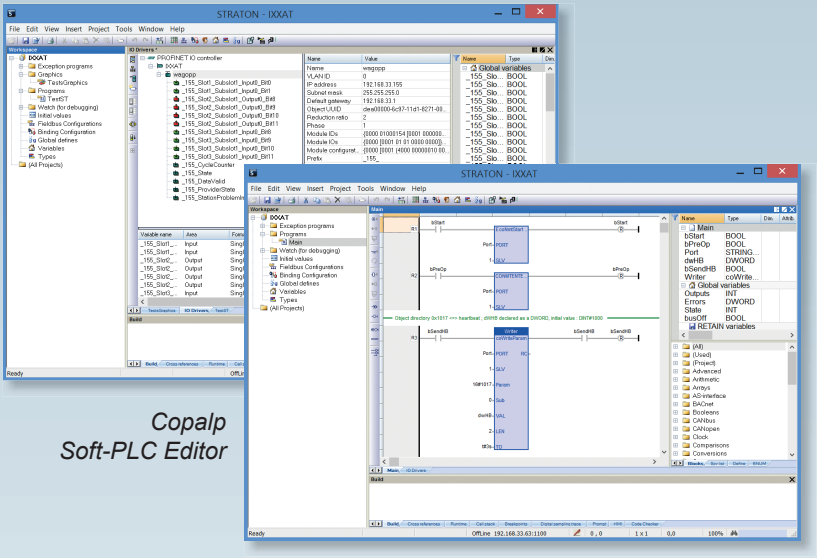
With the Anybus CompactCom modules, the IXXAT Econ 100 becomes a unique multi-protocol solution and an ideal and future-proof platform for customer-specific control and gateway applications.

Out-of-the-box variants

HMS offers software packages making the IXXAT Econ 100 an out-of-the-box master for EtherCAT and CANopen.

EtherCAT Master
The EtherCAT master implements the proven EtherCAT Master Class B software from acontis. The specially optimized link layer enables cycle times of less than 1 ms. Included interface drivers and the Linux operating system allow rapid implementation of your application.

CANopen Master
For the integration into CANopen networks, HMS offers a multi-channel variant of its IXXAT CANopen master/slave software, enabling the easy implementation of customized controllers and gateways. The optionally available CANopen Manager software provides a comprehensive range of functions including Configuration Manager and support of the network startup procedure. The CANopen Manager software is highly suitable for the implementation of local CANopen network controllers within machines or systems as well as for the integration with IEC61131-3 run-time environments.



Copalp
Soft-PLC Editor

Soft PLC simplifies programming

HMS offers an intuitively operated Soft-PLC programming environment for the IXXAT Econ 100 in collaboration with Copalp. The Soft-PLC is consistent with IEC 61131-3 and enables the fast and intuitive programming and configuration of simple control applications. This includes support for all important protocols, like CANopen, EtherCAT, Powerlink, PROFINET and EtherNet/IP.

Application Development Kits for high flexibility and performance

In order to support a rapid and efficient implementation of complex applications, HMS offers various well-documented application development kits (ADKs) for the IXXAT Econ 100. The ADKs include an extensive board support package incorporating all necessary interface drivers, sample applications, the respective protocol software package pre-installed on an SD card, and the Linux operating system. Highly customized applications can hereby developed easily by using C/C++ and standard development tools.

Technical data	
CPU	Xilinx Zynq SoC - Dual-Core Cortex A9 CPU with integrated FPGA of the Artix 7 Family
CPU clock frequency	667 MHz
Operating system	Linux
FPGA (within CPU)	28 k logic cells (optional 85 k logic cells)
Memory	256 MB DDR-RAM (optional 512 or 1024 MB)
Flash	256 MB SD card (industrial grade: optional up to 32 GB)
Standard on-board interfaces	■ 1 x 1000/100/10 MBit LAN ■ 1 x 100/10 MBit LAN (e.g. EtherCAT Master) ■ 2 x CAN High-Speed, galvanic isolated
Optional on-board interfaces	■ 2 x 100/10 MBit LAN (via FPGA design) ■ 1 x RS232 interface, instead of 1 x CAN ■ 1 x SPI or 1 x SDIO, 1 x I2C, 1 x UART ■ 2 x ADC (12 bit) ■ DVI (special case version)
Optional expansion board	■ 8 x digital input (0-24 V, galv. isolated) ■ 8 x digital output (0-24 V, 2 A max., galv. iso.) ■ 6 x analog input (0-10 V, 12 bit resolution) ■ 2 x analog output (0-10 V, 12 bit resolution) ■ NVRAM optional (512 kB) ■ 2 x RS232/RS485/RS422 ■ Anybus CompactCom Module interface
Cooling	Passive
Environment temperature	-40 °C to +70 °C
Power supply	9-32 V, 2-pin Phoenix Contact connector
Power consumption	4-5 watt, depending on FPGA use
Housing	Steel
Protection class	IP20
Mounting	DIN rail mounting with integrated DIN rail clip
Dimensions	72 x 154 x 105 mm
Weight	900 g

HMS Industrial Networks – worldwide

HMS - Sweden (HQ)
Tel : +46 35 17 29 00 (Halmstad HQ)
Tel: +46 35 17 29 24 (Västerås office)
E-mail: sales@hms-networks.com

HMS - France
Tel: +33 368 368 034 (Mulhouse office)
Tel: +33 1 69 85 24 29 (Orsay office)
E-mail: fr-sales@hms-networks.com

HMS - Italy
Tel : +39 039 59662 27
E-mail: it-sales@hms-networks.com

HMS - United States
Tel: +1 312 829 0601
E-mail: us-sales@hms-networks.com

HMS - China
Tel : +86 10 8532 1188
E-mail: cn-sales@hms-networks.com

HMS - Germany
Tel: +49 721 989777-000
E-mail: ge-sales@hms-networks.com

HMS - Japan
Tel: +81 45 478 5340
E-mail: jp-sales@hms-networks.com

HMS - Denmark
Tel: +45 35 38 29 00
E-mail: dk-sales@hms-networks.com

HMS - India
Tel: +91 20 2563 0211
E-mail: in-sales@hms-networks.com

HMS - UK
Tel: +44 1926 405599
E-mail: uk-sales@hms-networks.com