CAN for Medical Automation

HMS offers proven and reliable products for data communication in medical devices and systems

HMS Connecting Devices™

Do you design machines for medical technology or laboratory automation?

Do you want to provide your customers solutions with the highest reliability and quality?

Easy interconnection of devices

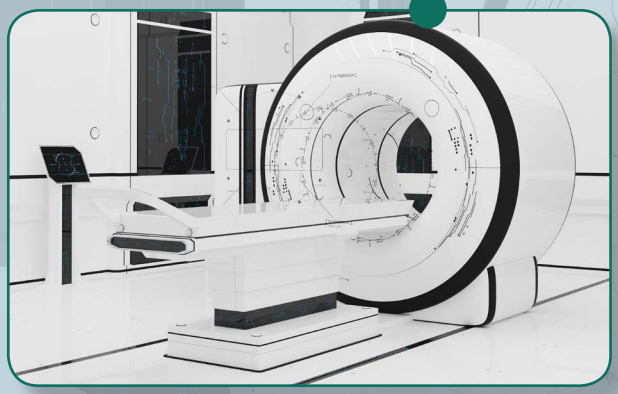
Our products enable you to...

- Exchange information between medical devices or different networks
- Control medical robots using any laptop or PC
- Maximize flexibility to connect medical devices

Your benefits of CAN for medical automation

- Minimal complexity with maximal robustness
- Field-proven in diverse applications
- Improved cost-efficiency
- Designed for real use cases
- Improved data-management by using standard software and hardware
- Approved by TÜV Deutschland and the FDA for use in medical systems

CANopen CAN



Access medical systems via Ethernet for remote maintenance and central data control

Control laboratory equipment via standard PCs

Ensure galvanic isolation and improve electromagnetic robustness of medical devices

Maximize control and patient safety while drastically cutting cost

Turn the page and learn how HMS can help you.

CAN products from HMS help to master data-communication challenges in medical systems!

Wireless connection for maximum flexibility

HMS wireless devices, like Anybus Wireless Bolt and IXXAT CANblue II, allow for maximum flexibility.

- Wireless bridging to replace CAN cable harness
- Connect to moving and rotating parts
- Mobile access, e.g. also for Android devices (BYOD)

Easy integration of existing devices

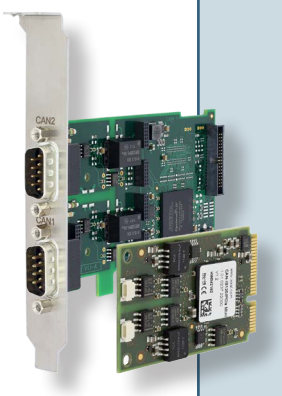
Anybus Communicator CAN opens up a large number of configuration possibilities.

- Integrates devices with classic serial ports into your CAN system
- Drastically cut time-to-market
- Cost savings due to simple wiring
- Flexible and easy configuration of data exchange with integrated tools

Integrate control and HMI functions into any PC

IXXAT PC CAN interfaces let any PC become the “brain” of your medical system.

- Modular and adaptable with best performance for control systems and HMIs
- Uniform API – enables switching of interface type without programming
- Drivers for Windows, Linux and many Real-Time Operating Systems



Flexible service and control

The cost-effective and versatile IXXAT USB-to-CAN v2 offers

- reliable, loss-free transmission of CAN messages
- high transmission rates and bus load
- minimum latency
- high speed CAN bit rates

More freedom in developing medical systems

IXXAT CAN Bridges and Gateways enable bridging of large distances and easy remote access to CAN-based medical systems.

- Less cost due to simpler wiring
- Increased reliability
- Filter and conversion functionality

Increase system robustness

IXXAT CAN Repeaters help you to

- establish a physical coupling of several CAN bus segments
- implement tree or star topologies as well as long drop lines
- de-couple network segments electrically

Embedded machine control

IXXAT Econ 100 allows for maximum control while simultaneously cutting cost

- powerful ARM-based platform with Linux operating system
- wide range of interfaces with a unique multi-protocol support
- modular, expandable and easy to program

CAN is in our genes

The history of CAN (Controller Area Network) and CANopen in medical technology started in 1992 when Philips Medical Systems decided to use CAN in its patient tables and x-ray systems. As a pioneer of CAN technology, HMS's IXXAT team made major contributions to this first use of CAN by providing protocol software and CAN hardware. HMS was also actively driving the development of the internationally accepted CANopen standard from the very beginning.

Your trusted partner in medical automation

An important aspect in the development of systems in the field of medical technology is limiting development risk and enabling long-term solutions. For decades, HMS has worked with customers providing software-components for device development. HMS is also well known for it's ability to deliver reliable solutions for the complete life span of our customer's systems. This includes CAN interfaces and CAN topology devices as well as embedded controllers.

The advantages of CAN and CANopen

Modern medical systems consist of a multitude of modules connected to one another. By using a standardized bus system such as CAN, individual system components – such as X-ray generators, patient tables or injectors – can be independently developed and modularly connected afterwards. This saves development time and costs and enables a universal and scalable use of components in a wide range of systems.

In addition – being a bus system – CAN networks need a considerably lower number of cables compared to classic direct or serial connections, resulting in lower cost, easier service and higher reliability.

A decisive advantage of CANopen as a communication protocol is the availability of profiles for a large number of medical devices. This enables interoperability of components from different manufacturers.

Every year we help companies simplify their control networks and reduce costs by moving to CANopen based networks. We look forward to helping you improve your control network.

Christian Schlegel, Managing Director of the HMS Technology Center Ravensburg

Did you know...?

With IXXAT products from HMS you profit from:

- More than 25 years of expertise in CAN products and services
- The largest portfolio for CAN, CAN FD and CAN-based protocols
- Extensive experience from long-term partnerships with customers in Medical Automation that rely on our solutions

IXXAT products support the entire scope of medical automation

IXXAT products are not only feasible for medical systems and laboratory automation but also are an important supplier for data-communication solutions for other devices like patient chairs and electric wheel chairs.

Analyzing, Test and Configuration Tools

Under the IXXAT brand, HMS offers a wide range of products for physical and protocol based analysis of CAN-based networks. This includes all relevant higher layer protocols, like e.g. CANopen. IXXAT tools combine powerful features with an intuitive operation, making them suitable for developers and service staff.

CANopen enables multi-vendor systems with one common controller

Using computers to control medical systems provides several benefits, including integration of control and visualization and the high processing power that can be used for complex tasks. The IXXAT PC CAN interfaces meets the electrical requirements according to IEC60601-1 and enables the integration of PCs into CAN-based networks. By combining these interfaces with one of the IXXAT CANopen driver packages for Windows, medical devices can be controlled via a PC in the most easy and secure way.

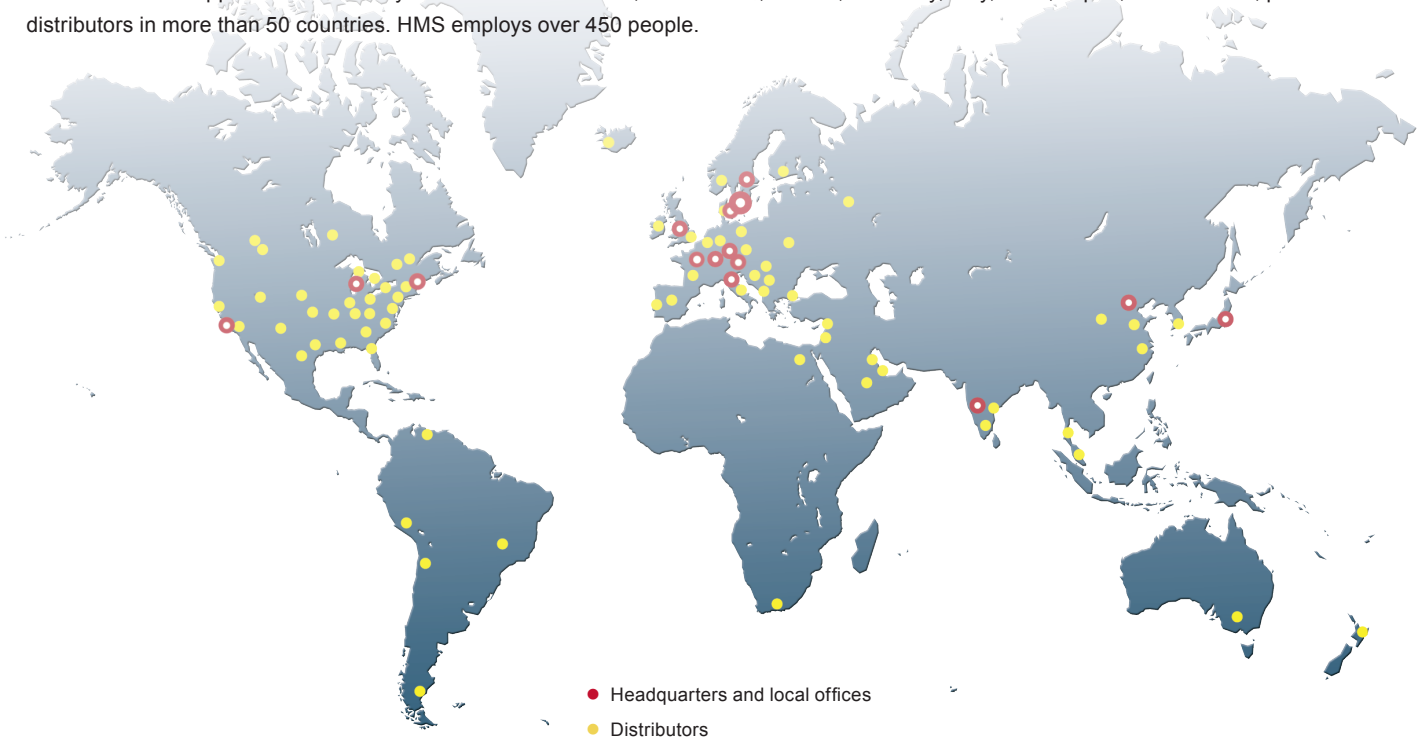
IXXAT CANopen solutions also support the CiA 425 application profile, which was specially designed for medical automation. The CiA 425 application profile allows e.g. the easy connection of injectors for contrast media to control computers for CT systems. HMS supplies solutions for all network devices: CAN-boards with the IXXAT CANopen Manager API for the control-PC as well as IXXAT CANopen Protocol Software and CAN-Interfaces for embedded computers for the injectors, patient table and the CT itself.

Learn more on www.ixxat.com/medical

HMS Industrial Networks

HMS Industrial Networks is the leading independent supplier of products for industrial communication. HMS develops and manufactures products under the brands: Anybus®, IXXAT® and eWON®. These products enable industrial devices to connect to different industrial networks and systems and also be monitored and controlled remotely.

Development and manufacturing take place at the headquarters in Halmstad, Sweden, in Nivelles, Belgium and in Ravensburg, Germany. Local sales and support are handled by branch offices in China, Switzerland, France, Germany, Italy, India, Japan, UK and USA, plus distributors in more than 50 countries. HMS employs over 450 people.



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