IXXAT®

PC/CAN Interfaces

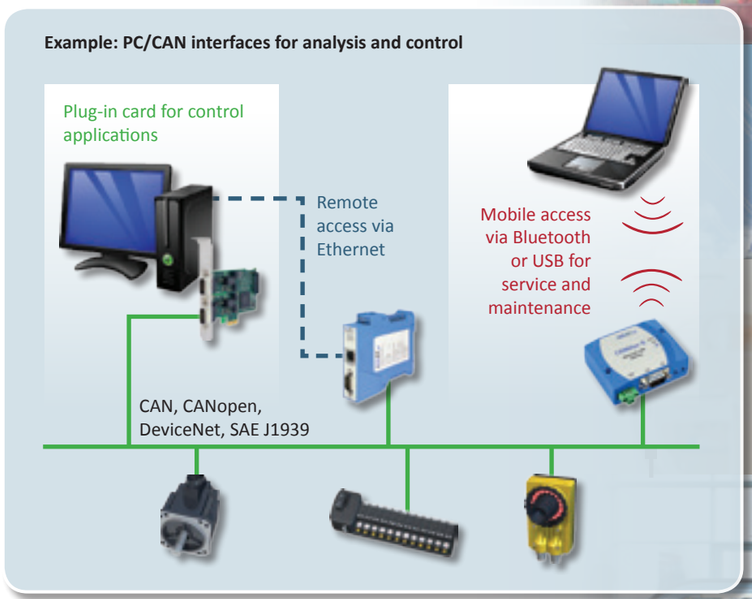
Connect CAN, CAN FD-, CANopen, DeviceNet and SAE J1939 systems to your PC

HMS Connecting Devices™

Highlights

- Support of all standard PC interfaces
- Common driver interface for easy exchange of the PC interface type without any changes to your application
- For CAN, CAN FD, CANopen, DeviceNet, SAE J1939
- Incl. powerful driver packages for Windows, Linux, INtime, QNX, RTX, and VxWorks
- High data throughput combined with low latency
- Long-term availability
- OEM versions and design-in solutions available
- High quality standards at development and production: Outgoing goods are 100 % tested

CANopen DeviceNet SAE J1939 CAN FD



The IXXAT PC/CAN interfaces enable PC applications to access CAN networks with a uniquely variety of different PC interface standards. You select the PC/CAN interface that suits your application, performance requirements or required unit costs.

Various variants and interfaces

IXXAT CAN interfaces are – depending on the variant – modularly designed and can be equipped with up to four CAN high-speed channels as well for automotive use with CAN low-speed and LIN channels. For fast networks, the CAN interfaces are also available with up to two CAN FD channels.

In addition, the interfaces can be galvanically isolated to protect both the interface and the PC system.

Besides a wide range of supported PC interface standards, from plug-in cards for e.g. PCI, PCIe, PCIe Mini, PMC, XMC, PCIe 104 to USB, Bluetooth and Ethernet, there are also PC interfaces in low-cost passive or active variants with powerful on-board controllers.

Active PC interfaces allow usage within applications with high demands on data pre-processing, such as high-precision time stamps or the active filtering of messages to be sent or received directly on the interface.

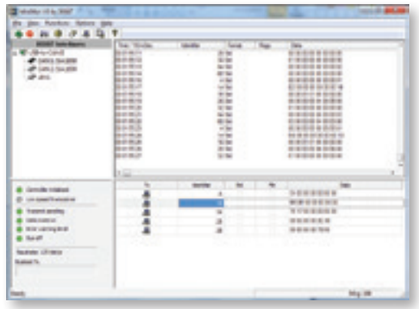
In addition to custom applications, the CAN interfaces are also basis for our extensive tool chain – consisting of analysis and configuration tools – as well as configuration software from a wide variety of equipment manufacturers.

Powerful driver packages for Windows and real-time operating systems

Despite the variety of different PC/CAN interfaces, all interfaces can be operated with the hardware-independent drivers for Windows (VCI) and real-time operating systems (ECI) by using a uniform programming interface.

Switching between the PC/CAN interfaces type is very easy and can be made without changes to your application. Thus, you are already well prepared for future technologies.

Windows
The “Virtual Communication Interface” (VCI) is designed as a system server and allows simultaneous access by several applications to one or more CAN controllers of one or more PC interfaces. Moving all important functions to the kernel optimizes the real-time capability of the VCI driver substantially.



CAN bus monitor “miniMon”

The VCI CAN driver is available for 32 and 64 bit Windows operating systems and also includes a simple CAN bus monitor “miniMon”, which enables the transmission and reception of CAN messages.

VCI application interface:
- C-API
- .NET-API
- JAVA-API
- LabView-API

- DasyLab (contains drivers for IXXAT interfaces)
- LabWindows

Linux, SocketCAN, INtime, RTX, QNX and VxWorks
For use of the CAN interfaces under Linux and in real-time environments (INtime, RTX, QNX, VxWorks), IXXAT provides the universal “Embedded Communication Interface” driver (ECI) free of charge together with an interface. The application interface is designed as a “ANSI-C” interface and contains all necessary functions for CAN-based applications.

CANopen and SAE J1939 APIs
For use of the CAN interfaces under CANopen and J1939, IXXAT offers driver APIs that provide all protocol-specific functions and thus enable quick and easy development of PC-based control and configuration applications.

NEW NEW

Technical data																		
Product	**CAN-IB100 /PCIe**	**CAN-IB200 /PCIe**	**CAN-IB300 /PCI**	**CAN-IB400 /PCI**	**CAN-IB500 /PCIe**	**CAN-IB600 /PCIe**	**CAN-IB120 /PCIe Mini**	**PC-I 04 /PCI**	**iPC-I XC16 /PCI**	**iPC-I XC16 /PMC**	**CAN-IB130 /PCIe 104**	**CAN-IB230 /PCIe 104**	**PC-I 04 /104**	**USB-to-CAN V2 compact**	**USB-to-CAN V2 professional**	**USB-to-CAN V2 embedded**	**CAN@net II /VCI**	**CANblue II**
PC interface standard	PCI express (V1.1)		PCI (V2.2)		PCI express (V1.1)		PCIe mini card (V1.2)	PCI (V2.1)	PCI (V2.2)	PMC (V2.2)	PCI Express (V1.1)		PC/104	USB (V2.0, high speed)	USB (V2.0, high speed)	USB (V2.0, high speed)	Ethernet	Bluetooth (V2.1)
Microcontroller	None	32 Bit	None	32 Bit	None	32 Bit	None	None	16 Bit	16 Bit	None	32 Bit	None	32 Bit	32 Bit	32 Bit	32 Bit	32 Bit
Fieldbus interfaces	1-4 x CAN	1-4 x CAN 1-4 x LIN/K-Line opt.	1-4 x CAN	1-4 x CAN 1-4 x LIN/K-Line optional	1 x CAN	1-2 x CAN	1 / 2 x CAN	1 / 2 x CAN	2 x CAN 1 x LIN (optional)	2 x CAN 1 x LIN	1 / 2 x CAN	2 / 4 x CAN 1 x LIN	1 / 2 x CAN	1 x CAN	2 x CAN 1 x LIN (automotive)	1 x CAN	1 x CAN	1 x CAN
CAN interface	CAN 2.0 A/B		CAN 2.0 A/B		CAN 2.0 A/B and **CAN FD**		CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B		CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B
CAN bus interface	ISO 11898-2 optional switchable to ISO 11898-3		ISO 11898-2 optional switchable to ISO 11898-3		ISO 11898-2		ISO 11898-2	ISO 11898-2	ISO 11898-2 opt. switchable to ISO 11898-3	ISO 11898-2 / 11898-3 switchable	ISO 11898-2	ISO 11898-2 1 x ISO 11898-3 switchable (opt.)	ISO 11898-2	ISO 11898-2	2 x ISO 11898-2 1 x ISO 11898-3 switchable (automo.)	ISO 11898-2	ISO 11898-2	ISO 11898-2
CAN connection	Sub D9 plug according to CiA 303-1		Sub D9 plug according to CiA 303-1		Sub D9 plug according to CiA 303-1		Connection cable with open ends	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1	Angled socket board 2x5		Angled socket board 2x5	Sub D9 or RJ45 plug according to CiA 303-1	2 x RJ45 plug with RJ45/Sub-D9 adapter cable	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1	Sub D9 plug according to CiA 303-1
Galvanic isolation	optional (1 kV, 1 sec.)		optional (1 kV, 1 sec.)		yes (1 kV, 1 sec.)		optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	yes (1 kV, 1 sec.)	yes (1 kV, 1 sec.)		optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	optional (1 kV, 1 sec.)	yes (1 kV, 1 sec.)	yes (1 kV, 1 sec.)
Temperature range	0 °C ... +70 °C		0 °C ... +70 °C		0 °C ... +70 °C		-40 °C ... +85 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-40 °C ... +85 °C		-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-20 °C ... +70 °C	-40 °C ... +85 °C
Power supply	3.3 V DC, 350 mA typ.	3.3 V DC, 390 mA typ.	5 V DC, 100 mA typ. and 3.3 V DC, 100 mA typ.	5 V DC, 100 mA typ. and 3.3 V DC, 500 mA typ.	3.3 V DC, 380 mA typ.	3.3 V DC, 400 mA typ.	3.3 V DC	5 V DC, 300 mA typ.	5 V DC, 100 mA typ. + 3.3 V DC, 185 mA typ.	5 V DC, 100 mA typ. + 3.3 V DC, 200 mA typ.	3.3 V DC, 350 mA typ.	3.3 V DC, 390 mA typ.	5 V DC, 150 mA	via USB port, approx. 250 mA	via USB port, 500 mA max.	via USB port, approx. 250 mA	9-32 V DC, approx. 3 W	9-30 V DC, approx. 0.6 W
Certification	CE, FCC		CE, FCC		CE, FCC		CE, FCC	CE, CSA/UL	CE, CSA/UL, FCC, EN 60601-1	CE, FCC	CE, FCC		CE, CSA/UL	CE, FCC	CE, FCC	CE, FCC	CE, CSA/UL, FCC	CE, FCC, Telec
Dimensions	approx. 65 x 105 mm		approx. 65 x 120 mm		approx. 65 x 105 mm		30 × 50.95 mm	approx. 95 x 125 mm	approx. 123 x 90 mm	approx. 74 x 149 mm	approx. 90 x 96 mm		approx. 90 x 96 mm	approx. 80 x 50 x 23 mm	approx. 80 x 50 x 23 mm	appr. 75 x 40 x 15 mm (without slot plate)	approx. 22.5 x 100 x 115 mm	approx. 82 x 64 x 26 mm
Order number	1.01.0231.xxxxx Low-profile vers. 1.01.0232.xxxxx	1.01.0233.xxxxx Low-profile vers. 1.01.0234.xxxxx	1.01.0291.xxxxx Low-profile vers. 1.01.0292.xxxxx	1.01.0293.xxxxx Low-profile vers. 1.01.0294.xxxxx	1.01.0231.12010 Low-profile vers. on request	1.01.0233.xxxxx Low-profile vers. on request	1.01.0237.xxxxx	1.01.0057.xxxxx	1.01.0047.xxxxx	1.01.0049.33660	1.01.0238.12000 1.01.0238.22000	1.01.0239.22000 1.01.0239.42001	1.01.0070.xxxxx	Compact 1.01.0281.xxxxx	Professional 1.01.0283.22002 Automotive 1.01.0283.22042	Embedded 1.01.0282.12001	1.01.0086.10200	1.01.0126.12000 1.01.0126.12001 (Version with ext. antenna)

- PC-based control applications
- Mobile service access via USB, Bluetooth or Ethernet
- Analysis of CAN-systems, e.g. in combination with the IXXAT canAnalyser
- Configuration of devices and systems with IXXAT CANopen tools

Industrial

- Analysis of CAN (high and low speed), CAN FD and LIN systems
- Control applications based on SAE J1939 or layer-2 driver API
- Mobile data acquisition via USB, Bluetooth or Ethernet

Automotive

Whether standard or customized – we always have the suitable interface solution

IXXAT PC interfaces are used in a wide range of industries and fulfill the specific requirements of different applications and fields of operation.

Industries

- Automotive industry
- Industrial automation and mechanical engineering
- Building automation
- Medical technology
- Commercial vehicles and agricultural engineering
- Shipping and aircraft industry
- Trains and rail vehicles
- Power generation and energy management

Customized solutions

At specific customer requirements in terms of form factor, interfaces and functionality, we develop customized solutions on behalf of our customers – fast and reasonably priced. This ranges from simple brand labeling and delivery of OEM versions of our standard products up to fully customized hardware and software solutions.

Typically, we take care of the products and projects of our customers throughout the entire life cycle. Our customers benefit from the ongoing investments we are making in new technologies. Our aim is to achieve high quality development results within the given time frame and budget. Basis for this philosophy is our ISO 9001 quality management.

“With a wide range of CAN interfaces we offer the right solution for your application.”

Christian Schlegel
HMS Technology Center Ravensburg, Managing Director

Power up!

IXXAT CAN technology enables Super B in the Netherlands to get even more power out of their state-of-the art lithium ion batteries.

As the world is trying to get rid of fossil fuels and migrate to greener energy sources such as sun and wind, one of the key issues is where to store the generated power. Batteries have long been the weak link in the chain, but as the demand increases, so does the development of battery technology. One of the companies driving battery technology forward is Dutch battery innovators Super B.
They use the IXXAT USB-to-CAN and IXXAT protocol software to handle communication between lithium ion batteries and the battery management system.

Car simulator driven by IXXAT

ETAS GmbH in Germany is well-known in the automotive business for their LABCAR solution – a powerful test system that simulates the behavior of a car, enabling users to test brakes, gearboxes, speed controls, and other electronic car systems in a controlled environment. ETAS is using IXXAT PC interface boards for connectivity to the CAN and LIN buses used by the car systems.

LABCAR from ETAS GmbH is one of the technically leading HiL-solutions with the ability to simulate any part of a car. This allows users to observe and measure the ECUs’ response in absence of a physical vehicle. LABCAR is used for simulating both normal operation as well as critical behavior – for example injecting invalid data signals.

HMS Industrial Networks

IXXAT CAN interfaces from HMS Industrial Networks enable the best possible connection of PC systems to CAN based networks. Through the use of precisely matching solutions – selected from our large hardware portfolio – and the corresponding software packages available at HMS, our customers gain a competitive advantage. HMS' knowledgeable staff along with distributors and partners in over 50 countries worldwide, are there to help you and your business increase productivity and performance while lowering cost and time to market.

www.ixxat.com

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