AMKASYN
CAN@NET II Interface

Version: 2007/17
Part-No.: 201724

About this documentation

Name: PDK_201724_CAN@NET_II_en

Use: Product description: CAN@net interface converter

What has changed:

Version	Change	Subject	Letter symbol
2007/17			
2008/34		first Flare version	Bls

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- Information located on the ID plate of the devices
- the software version
- the device setup and application
- the type of malfunction, suspected cause of failure
- the diagnostic messages (error messages)

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Content

1 Introduction

1.1 Product name

AP-CEC1 Ethernet – CAN converter

1.2 Ordering data

The AP-CEC1 Ethernet – CAN converter can be ordered by using AMK part no. O784.
The following components are included:

1x	part no.: 201723	CAN@net converter (IXXAT)
1x	part no.: 46786	Adapter cable (2x Sub-D 9P)
1x	part no.: 46827	AP-CI6 KPL converter
1x	part no.: 201110	Bus-terminating plug M12
1x	part no.: 29240	Terminating plug 6P (firewire)
1x	part no.: 29543	IEEE 1394 cable (2 x firewire)
1x	part no.: 201108	CAN-cable IDT-ACC2000 M12 male/female 90°
1x	part no.: 46942	VCI software CD

1.3 Use

The CAN@net II is a PC-CAN interface operated with TCP/IP.

The CAN@net II module connects the ACC bus interface (AMK CAN Communication) of the AMK devices with an Ethernet network. The connection is used for parameterisation and commissioning using the AIPEX PC software by AMK (part no.: 46600) and for programming using the CoDeSys PC software (AMK part no.: 46430).

The top hat rail design of both converters makes it possible to fixate the converters in the control cabinet. The AP-CI6 converter is permanently connected to the ACC bus.

No special hardware need to be installed to operate the CAN@net II. All that is required is a connection with a voltage source (24 V and GND), with Ethernet and with CAN.

The CAN@net II can be connected or separated from the Ethernet network during operation. Before using the CAN@net II for the first time, the VCI driver needs to be installed. The VCI driver also installs the required device drivers.

2 Installation

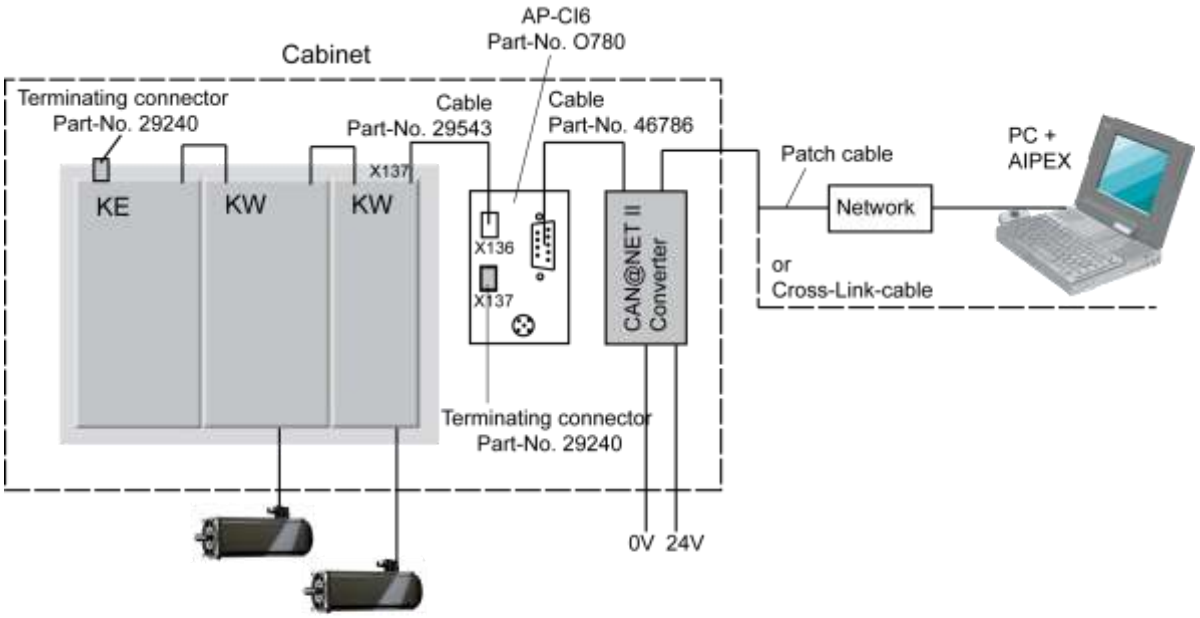
The connection between the AP-CI6 converter and ACC bus can be established at any position in the ACC bus. Make sure the ACC bus is cross-wired correctly (connect X136 with X137 of the next bus device, and then X137 to X136 of the subsequent device). However, it is recommended to connect the converter at the start or end in the ACC bus. The bus-terminating resistor then needs to be plugged onto the AP-CI6 converter.
The AP-CI6 converter may only be connected to an existing ACC bus by means of the ACC bus cable after the system has been de-energised.

Note:	Both a cross-link cable and a 1:1 network cable (patch cable) can be used.

Note:	For KU/KW CAN networks without NMT master, ID34026 bit 11 has to be set to 1. For example a KU with CAN@net converter.

Devices without bus master (NMT master) are activated in slave mode and the ACC bus is switched to “preoperational mode”. This makes an SDO transfer possible. (For use in connecting PC software e.g. AIPEX or CoDeSys to a KW-KU device via CANopen.)

2.1 Connection example: KE/KW

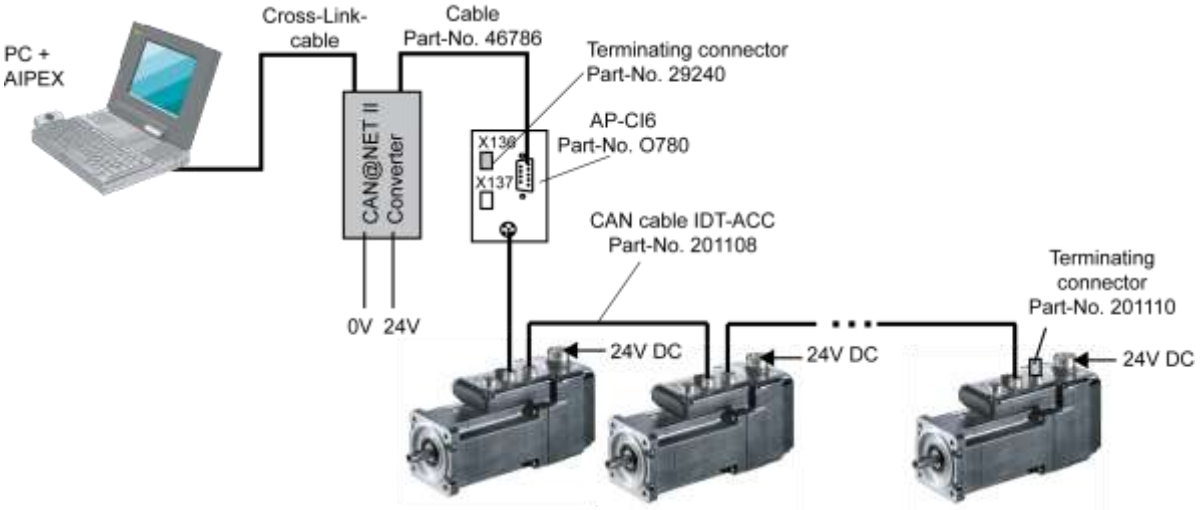


picture name: ZCH_CAN@NET_Konverter

Note:	The KU devices are connected in the same way as the KE/KW devices.

The ACC bus interface is on the AMK controller card of the KU or KE/KW system, or on the AS-FCT1/2 option card of the AMKAMAC controllers.

2.2 Connection example: IDT

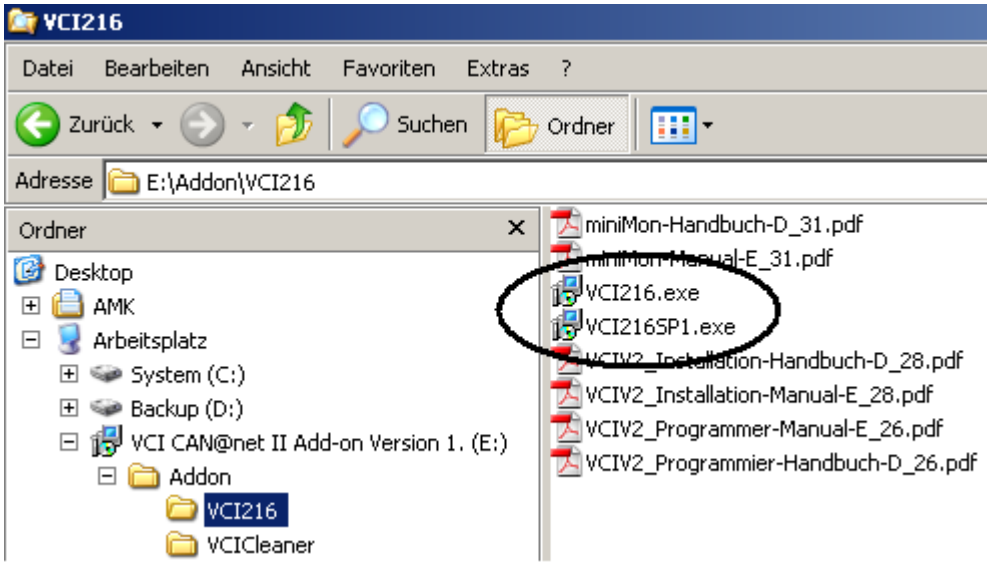


picture name: ZCH_CAN@NET_Konverter_IDT

2.3 Driver installation

The following description is based on Windows XP, and installation might vary when another Windows version is used. For information on other Windows versions (98, 2000 and NT), refer to the manual supplied by IXXAT.
The directories suggested by Windows have been used.

Important: First install the drivers (VCI216.exe and VCI216SP1.exe) from the supplied CD (VCI CAN@NET II add-on version) before connecting the CAN@net to the PC.



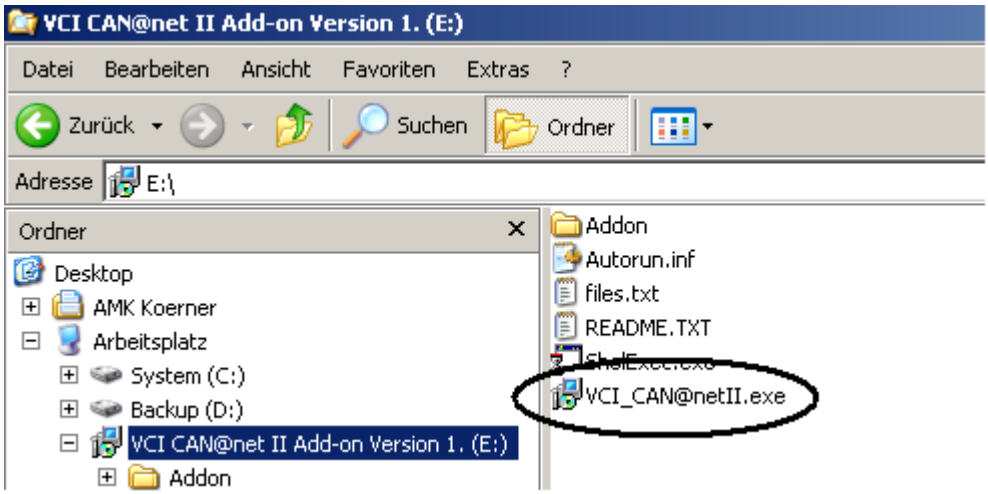
picture name: ZCH_CAN@NET_Treiberinstallation

Follow the instructions of the installation software to install the required VCI216 program and (if not installed), the VCI216SP1 service pack.
After you have installed the drivers, you have to restart the PC.

2.4 Installing the CAN@net II configuration tool

The “CAN@net II configurator” is used to configure the network parameters of the CAN@net converter.

Install the CAN@net configuration program (file: VCI_CAN@netII.exe)



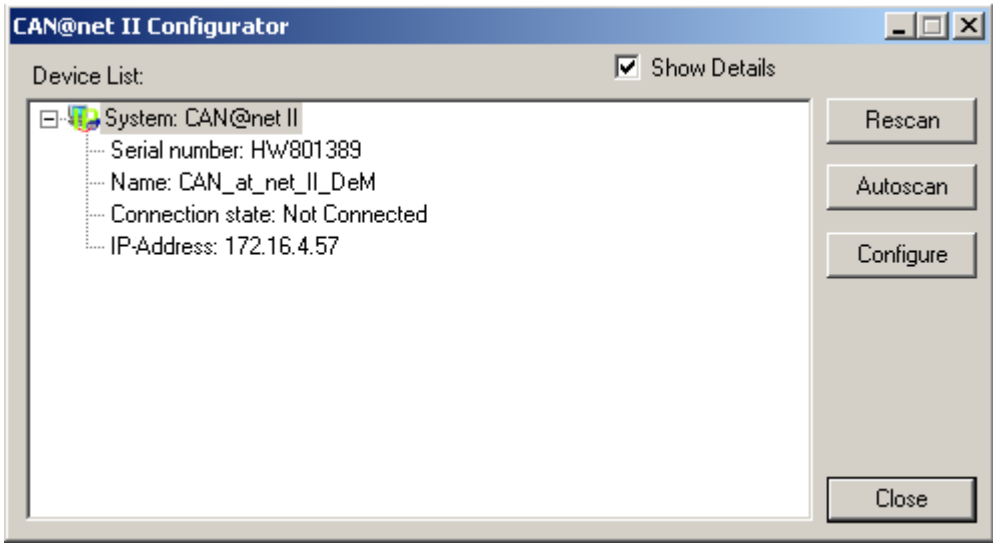
picture name: ZCH_CAN@NET_Konfiguratortool

The CAN@net converter is now ready for use. Connect the converter as described in the examples.

2.5 “CAN@net II Configurator” tool

The Configurator can be accessed by going to Start → All programs → IXXAT → VCI CAN@net II → “CAN@net II Configurator”

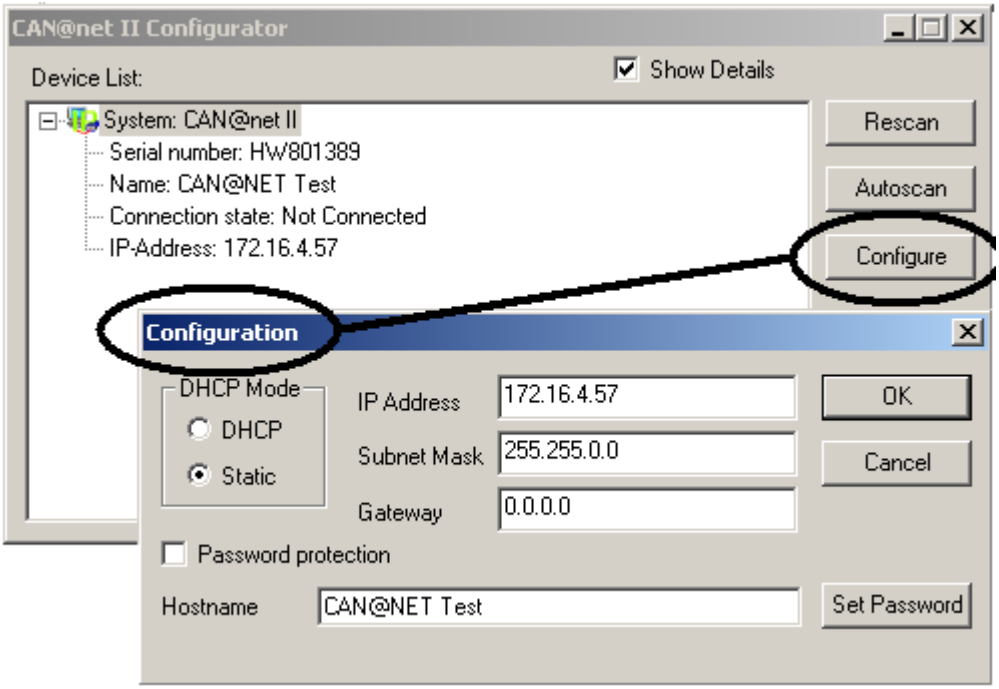
The configuration tool scans the network connected to the computer for available CAN@net II devices. All devices that are found are shown in the “Device List”.



picture name: ZCH_CAN@NET_Konfiguratortool_2

Press **“Rescan”** to start the search function manually.
If you press **“Autoscan”**, the network is scanned for new CAN@net converters every 3 seconds.

Press **“Configure”** to open the configuration dialog box.



picture name: ZCH_CAN@NET_Konfiguratortool_3

Note:	The configuration dialog box can only be opened when the converter is not connected to the ACC bus. (Connection State: Not Connected)

The appropriate TCP/IP settings can be obtained from your network administrator.

DHCP mode:
DHCP → IP address is obtained from the network server
Static → Fixed IP address (specified by the user)

Host name:
User-definable name for the CAN@net converter

Set Password:
The default password is **Ixxat**

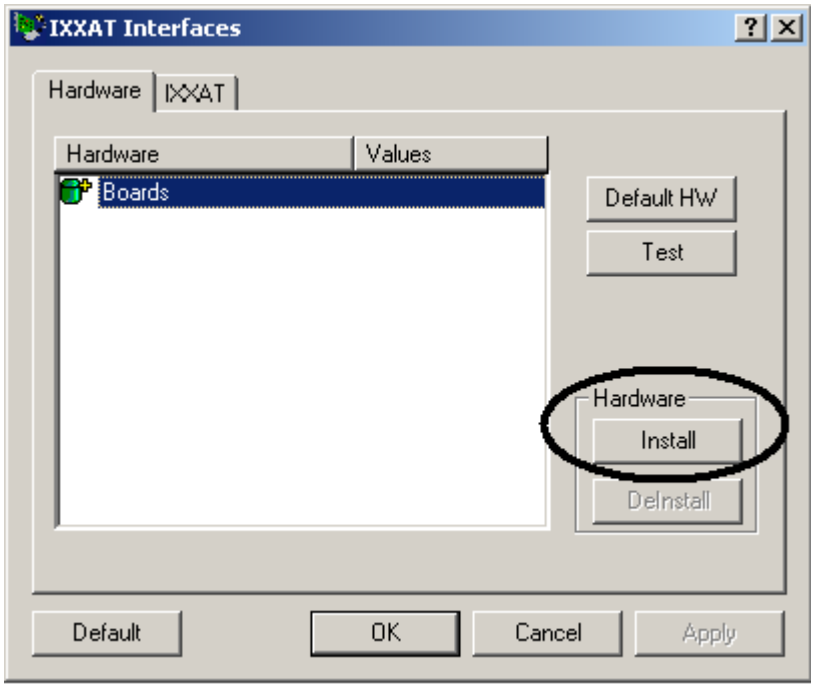
Password protection
After the “Password protection” has been activated, it is only possible to access the CAN@net interface if the correct password has been entered at the CAN@net hardware.

If you press “OK”, the network parameters are applied, after the default password, Ixxat, has been entered.

2.6 Hardware installation

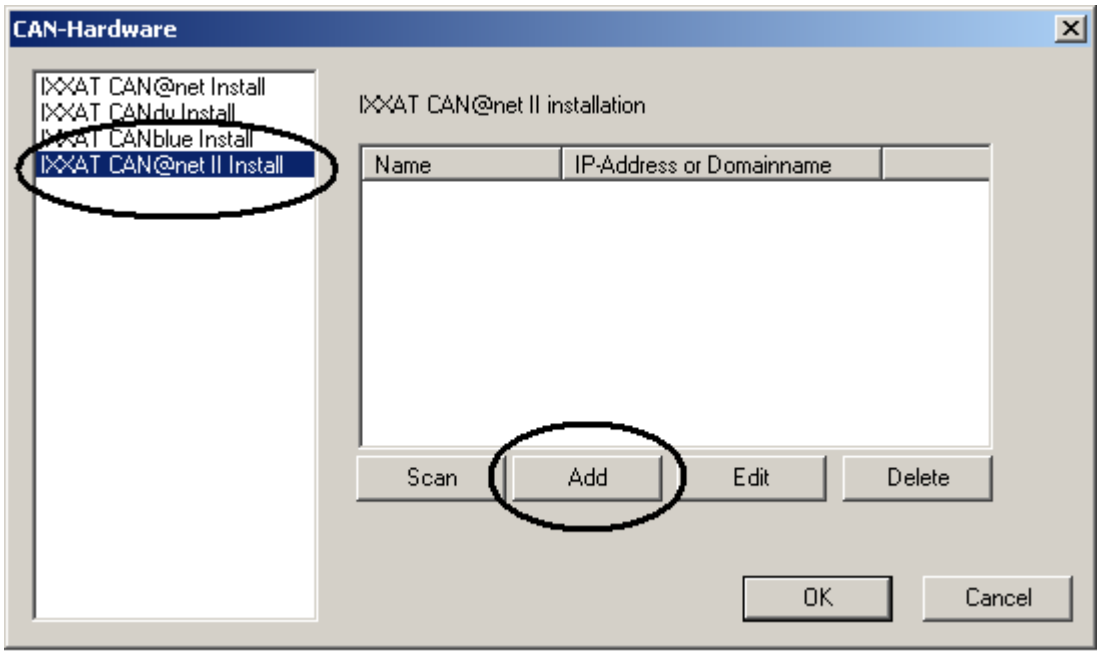
Note:	To install hardware, you have to have administrator rights.

The CAN@net is installed using the IXXAT Interface Applet. To do so, the VCI driver software must be installed in advance.
You can find the IXXAT Interface Applet at: Start → Control Panel → IXXAT Interfaces
Click “Install” to install new hardware.



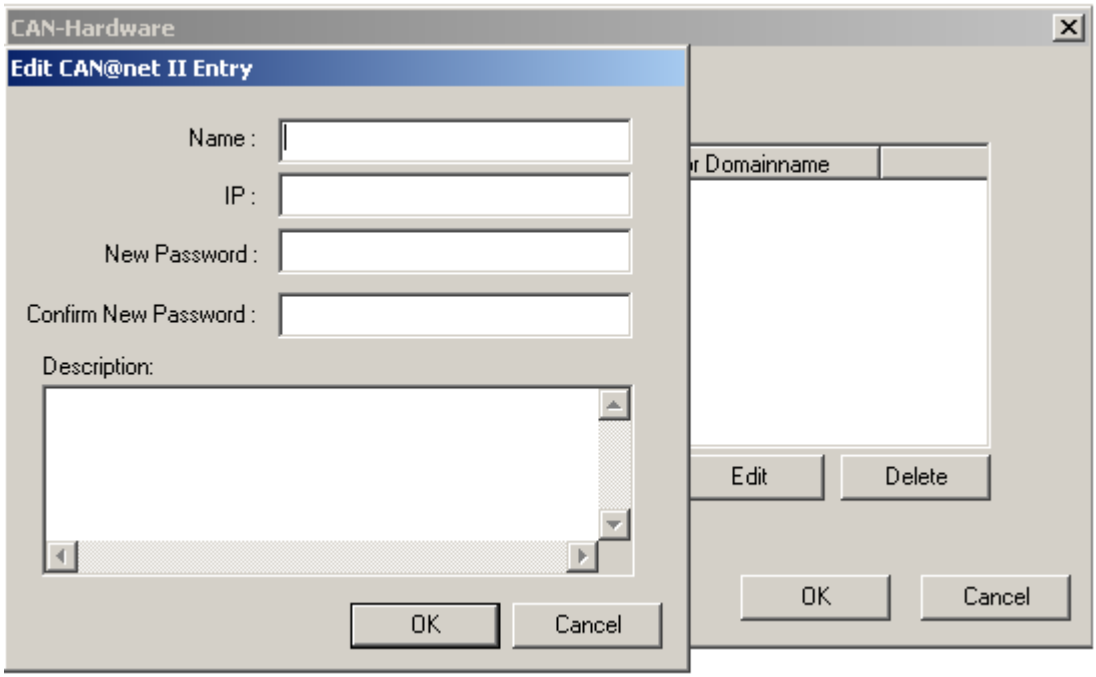
picture name: ZCH_CAN@NET_Hardwareinstallation_1

Select “IXXAT CAN@net II Install”.
To confirm the selection, click “Add”.



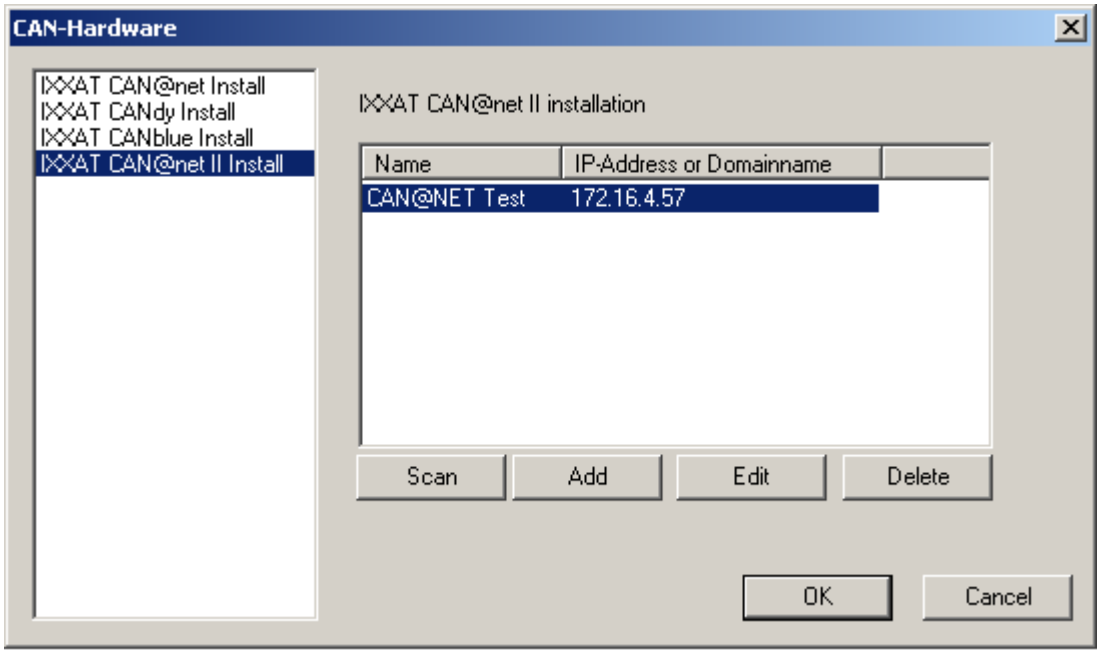
picture name: ZCH_CAN@NET_Hardwareinstallation_2

In the dialog box that opens, enter a symbolic name and the IP address specified previously in the “CAN@net Configurator”. If a DNS entry exists for the CAN@net converter, you can also enter a domain name instead of an IP address.
If “Password protection” has been activated in the “CAN@net II Configurator”, you have to enter (New Password) and confirm (Confirm New Password) the password that has been chosen in the “CAN@net II Configurator”. The password can only be changed in the “CAN@net II Configurator”.
In the “Description” box, it is possible to enter additional user-defined remarks. To enter line breaks, press Ctrl+Enter.
Click “OK” to save the data and close the dialog box.



picture name: ZCH_CAN@NET_Hardwareinstallation_3

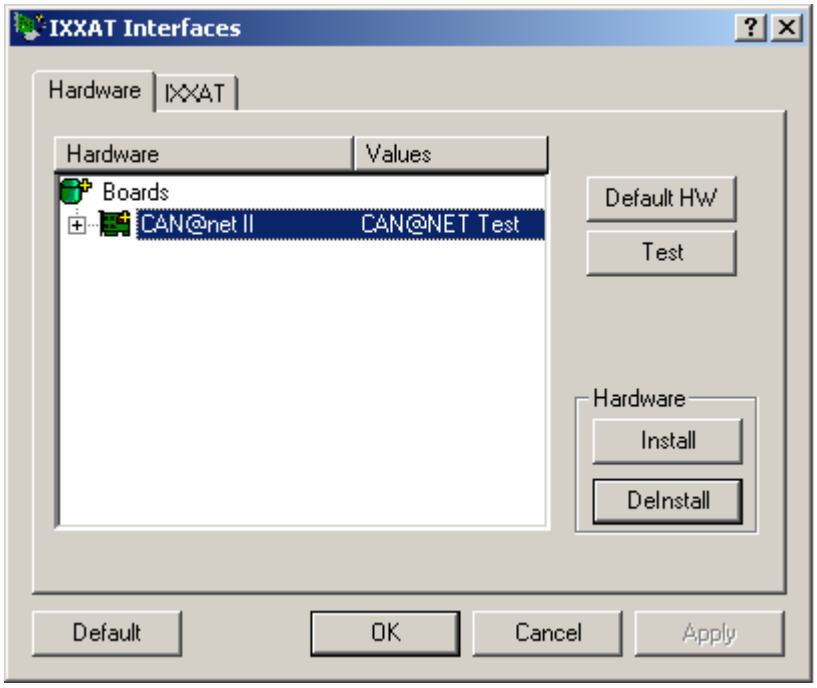
The entered configuration now appears in the installation dialog box. If you confirm it by clicking “OK”, the dialog box closes and a CAN@NETconverter with the selected configuration is set up.



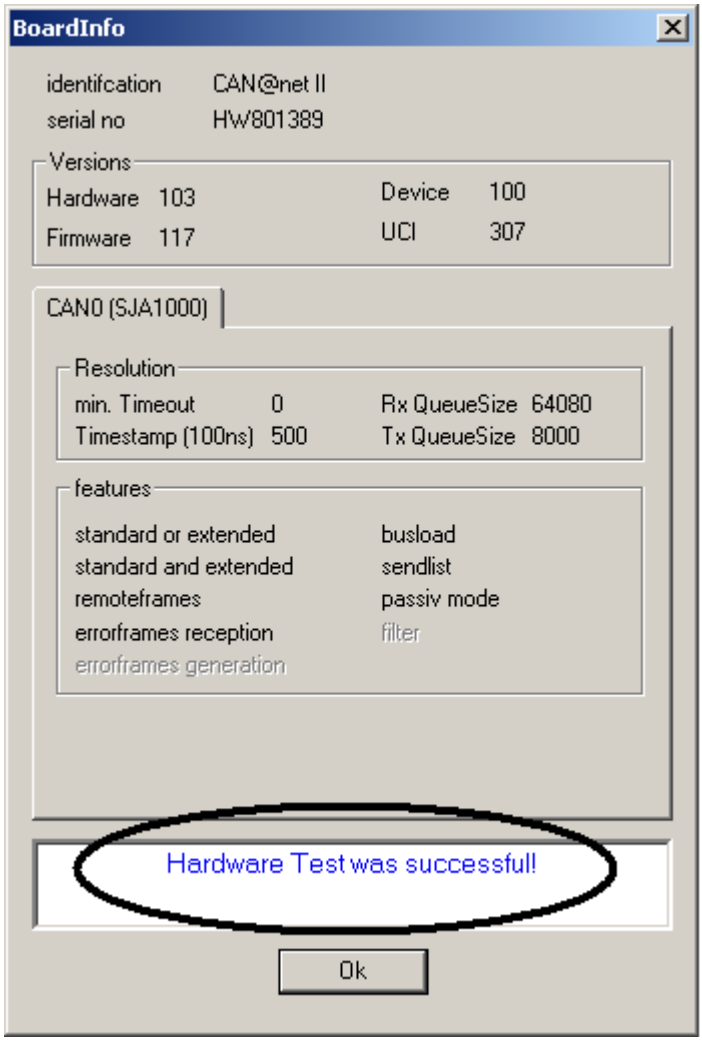
picture name: ZCH_CAN@NET_Hardwareinstallation_4

If several configurations have been defined here, you can select an existing entry to work with another CAN@net converter. You can use the “Edit” button to modify the selected entry.
To delete the entry, click “Delete”.

The main window of the IXXAT interface displays the CAN@net installed in the previous example. The “Test” button can be used to run an access test.



picture name: ZCH_CAN@NET_Hardwareinstallation_5



picture name: ZCH_CAN@NET_Hardwareinstallation_6

Note:	Depending on the use of CAN@net converter is used, other settings might have to be configured in the software of the respective application. For more information on the topic of CANopen communication, refer to the relevant documents (e.g. AIPEX, CoDeSys). Use the following versions or later versions: AIPEX 2.05 2006/34 CoDeSys 2.3.5.5 (Build: Oct 25, 2005)

Together with the driver, a basic CAN analyser, the “Minimon 32”, is installed on the PC. With this software it is possible to monitor the CAN bus data exchange between the CAN nodes.

3 Technical data

Dimensions:	114.5 x 99 x 22.5 mm
Weight:	approx. 300 g
Working temperature range:	-20 °C - +70 °C
Supply voltage:	+9 V ... +32 V DC
Current consumption:	typically 110 mA (at 24 V) max. 250 mA (at 24 V)
Protection class:	IP30
Galvanic isolation:	560 V AC for 1 min
CAN propagation delay:	typically 32 ns, with galvanic isolation
EMC inspection as per:	DIN EN 55022:1998 + A1:2000 + A2:2003 (limit class A) FCC Rules 47 CFR Part 15 – Subpart B Alternative IEC/CISPR22:1997 + A1:2000 + A2:2002 (limit class A)

4 EMC information

The ACC bus connected to the interface has to have a shielded cable. The braided shield has to be placed flat onto the plug casing. The converter may only be connected to a PC with CE mark.

5 Pin assignment

The USB connection is a type A USB plug. The assignments of the ACC bus connector is listed in the following table:

ACC assignment X137/X237

Pin	X137	Note
1	N.C.	AMK-internally
2	GND	Ground
3	CAN_H	CAN High
4	CAN_L	CAN Low
5	SYNC_H	SYNC High
6	SYNC_L	SYNC Low
Casing	PE	Shield

ACC assignment X136/X236

Pin	X136	Note
1	N.C.	AMK-internally
2	GND	Ground
3	SYNC_H	SYNC High
4	SYNC_L	SYNC Low
5	CAN_H	CAN High
6	CAN_L	CAN Low
Casing	PE	Shield

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