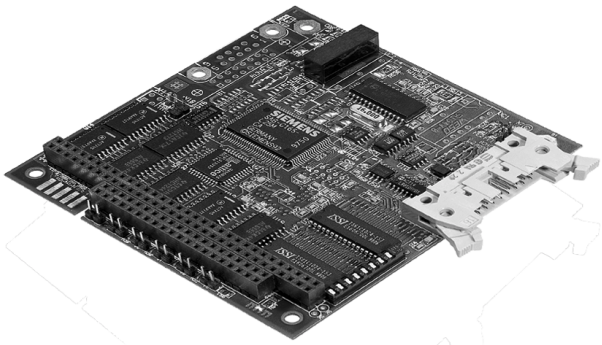
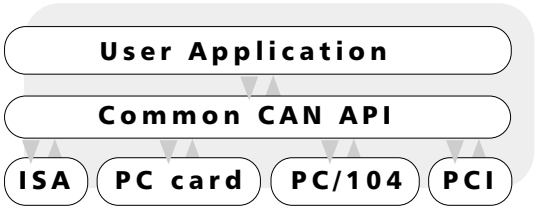
CAN

Application Controller Family CAN-ACx-104

APPLICATION

The CAN-ACx-104 product family consists of a series of intelligent CAN network connections for industrial PCs in PC/104 format. With its powerful hardware and software interfaces, the CAN-ACx-104 product family offers the flexibility necessary for use under various environmental conditions.





HARDWARE PROFILE

Because CAN-ACx-104 is equipped with its own microcontroller, CAN data streams can be pre-processed and buffered, thereby relieving the PC significantly. As a result, the real-time requirements of PC applications are drastically reduced.

CAN-AC1-104 offers access to one, CAN-AC2-104 to two, independent, opto-isolated CAN networks. The CAN network connectors are locked in place on the PC/104 board via ribbon cables, guaranteeing a reliable connection, even under harsh environmental conditions.

Further variants are available upon request for the extended temperature range and protection against moisture by means of special enamel.

DRIVER SUPPORT

Extensive driver libraries ranging from MS-DOS to Windows 9x and NT allow easy integration of CAN accesses in PC-based applications.

Moreover, sample programs are available for integration in numerous off-the-shelf applications.

PROGRAMMING INTERFACE

Thanks to the Common CAN Application Programming Interface (API), CAN-ACx-104 harmonizes excellently in the existing CAN product line. Therefore, migration to another hardware platform is possible at any time.

The Common CAN Application Programming Interface provides two operating modes:

- **CAN object memory**
  - Exchange of CAN messages via an object buffer which reserves memory space for send and receive objects
  - Static mode (11-bit identifiers, only channel 1) with 2048 send and 2048 receive objects
  - Dynamic mode (11- and 29-bit identifiers) with 200 send and 200 receive objects per channel
  - Allows remote-controlled and cyclic transmission with a minimum cycle time of 1 ms

- Always holds a current image of the CAN distributed database, as applications for measurement and visualization frequently demand

■ **FIFO operation**

- Sequential storage of up to 255 send and receive messages
- De-coupling of CAN communication and PC application
- Message history containing time stamps with a resolution in microseconds

TECHNICAL DATA

Hardware

CAN interfaces	Separate network interfaces according to CAN specification 2.0 B with CAN Controller SJA1000
Physical interfaces	CAN high-speed interfaces in accordance with ISO 11898 up to 1Mbit/s, D-sub 9-pin connector according to CiA (CAN in Automation) standard, connected via ribbon cable
Electrical isolation	Opto-isolated physical CAN interfaces
Microcontroller	16-bit microcontroller SAB C165
Code/data memory	256-Kbyte SRAM (256-Kbyte FLASH on request)
PC interface	PC/104 16-bit interface, 4-Kbyte DPRAM (8-bit interface on request)
PC memory area for DPRAM	I/O address range selectable via DIP switches; memory address range configurable via software
PC interrupt	Configurable via software; PC/104 interrupt sharing selectable via jumpers
Dimensions	PC/104 board, 96 x 90 mm
Temperature range	Operation: 0...55 °C (-40...85 °C on request), storage: -25...85 °C
EMC	■ CE-conformity according to EN 55022:1994, class B and EN 50082-2:1995 (residential and industrial area) ■ FCC part 15, subpart B, limit B (residential and industrial area)

Software

Driver library CAN Layer 2	■ C-library for Microsoft C and Borland C for MS-DOS V3.3 or later ■ 16-bit DLL for Windows 3.1x, 32-bit DLLs and drivers for Windows 9x or Windows NT

System requirements

IBM-compatible PC with 16-bit PC/104 slot

Scope of delivery

- CAN-AC1-104 hardware (with 1 CAN bus connection)
- CAN-AC2-104 hardware (with 2 CAN bus connections)
- Connection cable with D-sub 9-pin connector
- CAN-ACx-104 C-library for MS-DOS V3.3 or later
- CAN-ACx-104 16-bit DLL for Windows 3.1x
- CAN-ACx-104 32-bit DLL and VxD driver for MS-Windows 9x
- CAN-ACx-104 32-Bit-DLL and Kernel Mode Driver for MS-Windows NT (only CAN-AC1-104N or CAN-AC2-104N)
- Sample software
- English user manual

On request, application examples showing how to link the programming interface in off-the-shelf applications

Ordering information

■ CAN-AC1-104	Connection to 1 CAN network, without driver library for Windows NT
■ CAN-AC1-104N	Connection to 1 CAN network, with driver library for Windows NT
■ CAN-AC2-104	Connection to 2 CAN networks, without driver library for Windows NT
■ CAN-AC2-104N	Connection to 2 CAN networks, with driver library for Windows NT

Further variants on request

Edition 1.00

Please ask for more information and assistance

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