

# CAN



## Application Controller CAN-AC1 / AC2

### APPLICATION

The PC is increasingly being used for controlling, operating and visualizing automation and measurement applications. This often requires connection of external periphery via the CAN bus.

CAN-AC1 and CAN-AC2, featuring ISA (Industry Standard Architecture) bus technology, are suitable for easy and low-cost – but, nevertheless, powerful – interfacing of PC applications to CAN-based networks.

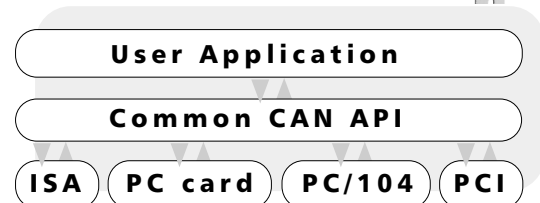
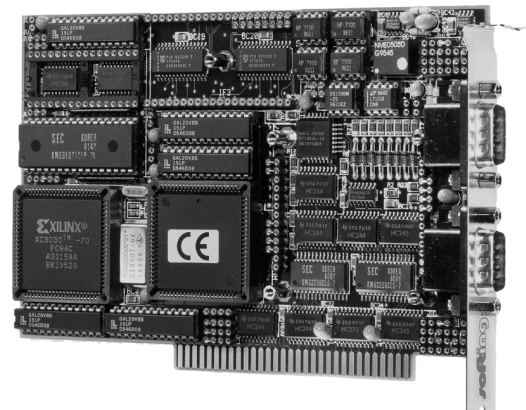
### HARDWARE PROFILE

Because CAN-AC1 / AC2 is equipped with its own micro-controller, 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-AC2 offers access to two independent, opto-isolated CAN networks. If only one CAN channel is required, CAN-AC1 is available as low-cost alternative.

### DRIVER SUPPORT

Extensive driver libraries ranging from MS-DOS to Windows 9x and NT allow easy integration of CAN accesses in PC-based applications tuned to the requirements of the user. 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-AC1 / AC2 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 1ms

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 A with CAN Controller 82C200, optionally according to CAN specification 2.0 B with CAN controller 82527

**Physical interfaces**      Opto-isolated CAN high-speed interfaces in accordance with ISO 11898 up to 1Mbit/s or customer-specific via piggyback, D-sub 9-pin connectors according to CIA (CAN in Automation) standard

**Microcontroller**      NEC V25+, 20MHz ext.

**Code/data memory**      128-Kbyte SRAM

**PC interface**      ISA, 8-bit interface, 64-Kbyte DPRAM

**PC memory area for DPRAM**      16 Kbytes or 64 Kbytes in the address range D0000 to EFFFF (selectable)

**PC interrupt**      IRQ 3, 4, 5, 7, 9 or unused (polling)

**Dimensions**      Short PC plug-in board, 100 x 160 mm

**Temperature range**      Operation: 0...70 °C, storage: -65...120 °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<br>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 ISA slot

### Scope of delivery

- CAN-AC1 hardware (with 1 CAN bus connection)
- CAN-AC2 hardware (with 2 CAN bus connections)
- CAN-AC2 C library for MS-DOS V3.3 or later
- CAN-AC2 16-bit DLL for Windows 3.1x
- CAN-AC2 32-bit DLL and VxD driver for MS-Windows 9x
- CAN-AC2 32-bit DLL and Kernel Mode Driver for MS-Windows NT (only CAN-AC1N or CAN-AC2N)
- Sample software
- English user manual

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

### Additional software

CANalyzer bus analysis software

### Ordering information

- |            |   |
|------------|---|
| ■ CAN-AC1  | (connection to 1 CAN network, without driver library for NT)  |
| ■ CAN-AC1N | (connection to 1 CAN network with driver library for NT)      |
| ■ CAN-AC2  | (connection to 2 CAN networks, without driver library for NT) |
| ■ CAN-AC2N | (connection to 2 CAN networks, with driver library for NT)    |

#### Optional:

- OPT-CAN-AC2/527      (CAN V2.0B with Intel 82527 for 29-bit extended identifiers)
- OPT-CAN-AC2/ANA      (CAN protocol analysis logic for CAN-analyzer bus analysis software)

Please ask for more information and assistance



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