CAN-AC2-PCI

CAN Bus PCI Interface
for Vehicle Electronics

Powerful Vehicle Interface

Most ECUs in today's vehicle networks use the CAN bus as a communication medium for onboard and diagnostic data. It is therefore particularly important in the Engineering, Manufacturing and Test environment to have easy-to-use access to this CAN bus from your PC in all kinds of applications. CAN-AC2-PCI is a powerful hardware interface perfect for use in precisely such cases. The CAN-AC2-PCI enables ECU communication in stationary operation and is perfectly suited, thanks to galvanic isolation, for use with test beds and in the Manufacturing environment.

Areas of Implementation and Applications

In the ECU Engineering, Simulation, Test and Validation sectors, the CAN-AC2-PCI supports a wide range of communication applications. It allows parallel access to several ECUs at up to two CAN buses simultaneously (important for diagnostic and test applications).

By default, both CAN channels are equipped with high-speed transceivers. For perfect adaptation to the particular use case, each channel can also be equipped with an additional CAN low-speed transceiver. This takes place using an optional piggyback which enables software-controlled selection of the CAN transceiver. This makes a test system easy and flexible to use with different ECUs.

Advantages

CAN APIs

The CAN-API, which is standard for all CAN interfaces from Softing, provides powerful communication mechanisms for CAN applications. Local buffering and preprocessing result in high performance and a reduction of time-critical tasks for the PC. Special automation interfaces, such as the CANopen-API, are also available.
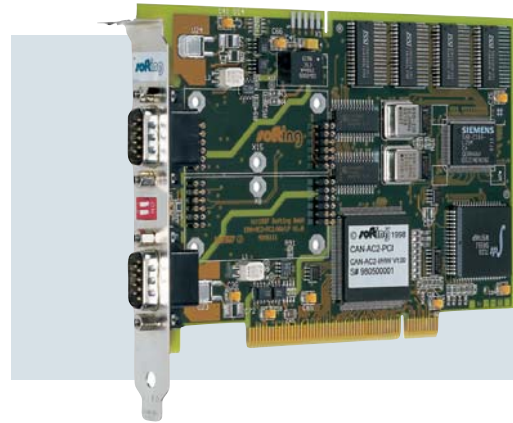
D-PDU API

The standardized programming interface provides applications with powerful multi-channel communication mechanisms with vehicle protocols such as Diagnostics on CAN (ISO 15765) and UDS (ISO 14229). It also allows integration into diagnostic systems in accordance with ISO 22900 (MVCI).
D-PDU API is available upon request.

Scalable

The CAN-AC2-PCI interface supports two independent CAN bus channels. By combining several CAN-AC2-PCIs (or even other CAN/EDIC® interfaces), the number of communication channels available on the PC system can quickly be adapted to the relevant application.

Environment

The galvanic isolation of PC and vehicle interfaces enables trouble-free operation even in harsh manufacturing environments.

An Overview of Features
- Active card with its own microcontroller for high performance
- Reduces the number of time-critical tasks the PC has
- Two independent CAN bus channels with switchable bus termination
- Additional CAN transceivers via piggybacks
- Galvanic isolation

softing
Automotive Electronics GmbH

Softing Automotive Electronics GmbH
Richard-Reitzner-Allee 6
85540 Haar, Germany

Tel.:   +49 89 4 56 56-420
Fax: +49 89 4 56 56-499
info.automotive@softing.com
www.softing.com

Softing North America, Inc.
29 Water Street, Suite 301
Newburyport, MA 01950
USA

Tel.: +1 978 499 9650
Fax: +1 978 499 9654
info.usa@softing.com
www.softing.us

Data Sheet
CAN Bus PCI Interface
for Vehicle Electronics

Technical Data

Format	Short PCI card, 100x160mm
Power supply	5V (via PC)
Current consumption	Typ. 410 mA
Microcontroller	Infineon C165
Program/data memory	256 kB RAM for operating software (via download)
PC interface	PCI V2.1, 4kB DPRAM (16-bit)
Vehicle interfaces	2 D-Sub 9-pin, CAN bus signals galvanically isolated from the PC interface
CAN	■ 2 CAN channels in acc. with ISO 11898 and CAN 2.0B with 11-/29-bit identifier ■ Slot per channel for optional piggyback with additional CAN bus transceiver (switchable via software)
CAN controller	SJA1000
Temperature range	Operation: 0 ... +55 °C, Storage: -20 ... +70 °C
EMC conformity	■ Noise emission: EN 55022 Class B ■ Interference immunity: EN 61000-6-2 (Industrial sector) ■ FCC part 15 subpart B Class B (Industrial sector)

Delivery Scope

■ CAN-AC2-PCI hardware
■ CD with CAN-API software, manual as PDF file
  and X-Analyser Appetizer

System Requirements

■ Operating system Windows™ 7, Vista, XP
■ 4 kB free addressable storage in the upper memory area
  and one free interrupt

Software (optional)

■ Diagnostic Tool Set (DTS)
■ D-PDU API software in acc. with ISO 22900-2 (upon request)

Order Numbers / Options

CAN-AC2-PCI N
■ PCI-Bus interface for 2 x CAN Highspeed

CAN-AC2-PCI-LS
■ Piggyback for CAN low-speed with transceiver TJA1053
  (or compatible)
  One piggyback is required per CAN channel

CAN-AC2-PCI-SI *on request*
■ Piggyback for CAN low-speed SingleWire with transceiver
  AU5790 (or compatible)
  One piggyback is required per CAN channel

softing
Automotive Electronics GmbH