# CAN Plug-In Board CPC-PCI

## Special Features

- Passive CAN Interface for PCI slots
- One, two or four CAN channels with Controller NXP SJA1000
- Optional galvanic separation of CAN controller to PC
- Optional galvanic separation between CAN channels
- Supports 11 bit frames and 29 bit frames
- Development kits for Windows 2000/XP/Vista and Linux available

## Description

CPC-PCI is a passive CAN plug-in board for PCI slots. CPC-PCI was designed for industrial series application and has a robust and cost efficient construction. CPC-PCI supports either one, two or four CAN channels that can be operated independently with different data rates. The interface comes with the NXP CAN controller SJA1000, that offers good diagnostic attributes.

CPC-PCI maps the CAN controller(s) directly in the address space of the PC and allows access of the CAN messages with low latencies. Existing software for the supported CAN controller can easily be adapted. The CAN communication with CPC-PCI may be handled either in interrupt controlled mode or in polled mode, interrupt channels are assigned automatically (Plug & Play).

Optionally, CPC-PCI is available with galvanic separation between PC and CAN bus. A galvanic separation between the CAN channels is also possible by separate DC/DC converters.

# Technical Data

### Bus Interface

| | |
|---|---|
| Pin assignment | Connector DSub 9, complying to CiA DS-102 |
| Type of the physical connection | ISO 11898 / Transceiver PCA82C251 |
| Maximum voltage on bus pins | ±30V referring to bus ground |
| Isolation voltage with galvanic separation | ±1000V DC |

### Configuration

| **Resource** | **Parameter** |
|---|---|
| PC address space | Automatic assignment (Plug & Play) |
| Interrupt | Automatic assignment (Plug & Play) |

# Programming Interface

Configuration and CAN communication with CPC-PCI are done by accesses to the memory address area of the PC. The appropriate data areas are mapped by CPC-PCI and "plug & play" software into the memory address space. Due to the direct access to the CAN controllers the CAN communication takes place with low latency time.

The memory used by CPC-PCI is divided in several sections. The control registers allow the detection of the interface type similar to the interfaces CPC-Card, CPC-XT and CPC-104 and the generation of hardware resets for the CAN controllers. The access to the CAN controllers occurs via a separate memory space for each interface. In these memory spaces, the sending and receiving buffers as well as the control registers of the CAN controllers are accessible.

A specification describing the access to the CAN controllers as well as drivers for Windows and Linux are available separately.

# Scope of Delivery

• Plug in board CPC-PCI
• User Manual
• proCANtool CAN Monitor for operating systems Windows 2000/XP/Vista