

# CAN Plug-In Board CPC-PCle

## Special Features

- Passive CAN interface for PCIe x1 slots
- 1, 2 or 4 CAN controllers NXP SJA1000
- Optional galvanic separation of CAN controller to PC
- Optional galvanic separation between CAN channels
- Supports 11-bit frames and 29-bit frames
- Also available as low profile versions with max. 2 CAN channels
- Linux socketCAN is supported
- Free of charge development kits for Windows 7/8.x/10/11 and Linux

## Description

CPC-PCle is a passive CAN plug-in board for PCIe x1 slots. CPC-PCle was designed for industrial series application and has a robust and cost efficient construction. CPC-PCle 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-PCle maps the CAN controller(s) directly in the address space of the PC and allows access to the CAN messages with low latencies. Existing software for the supported CAN controller can easily be adapted. For the operating systems Windows and Linux software development kits with identical API are available free of charge.

Optionally, CPC-PCle 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.

For applications in compact embedded PCs CPC-PCle is also available as a low profile version with max. two CAN channels.

## Technical Data

### Bus Interface

Pin assignment	Connector D-Sub9, complying to CiA DS-102
Type of the physical connection	ISO 11898 / Transceiver PCA82C251
Maximum voltage on bus pins	$\pm 30$ V referring to bus ground
Isolation voltage with galvanic separation between CAN and host	$\pm 1000$ V DC

### Configuration

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

## Programming Interface

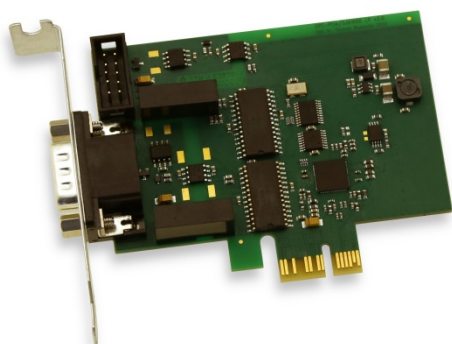
Configuration and CAN communication with CPC-PCIe are done by accesses to the memory address area of the PC. The appropriate data areas are mapped by CPC-PCIe and „plug&play” software into the memory address space. Due to the direct access to the CAN controllers the CAN communication takes place with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

The memory used by CPC-PCIe 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 controller are accessible.

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

## Scope of Delivery

- CAN plug-in board CPC-PCIe
- User manual
- proCANTool CAN-Monitor for operating system Windows 7/8.x/10/11



low profile versions available!