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# **CANpro PCI Express (single channel)**

## **Hardware User Manual**

Part number: CAN-PRO1-PCIE

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V1.00.01

# 1 Installation

To properly install the CAN-PRO1-PCIE in your PC, please follow the instructions detailed in the next sections.

## 1.1 System requirements

To run the CAN-PRO1-PCIE on a PC, the PC must meet the following requirements:

- PCI Express slot
- Windows7, Windows Vista or Windows XP installed

## 1.2 Software installation

The CAN-PRO1-PCIE software is part of the “CAN Drivers and API” CD which is also available from the download section at [www.softing.com](http://www.softing.com).

- Insert the CD in your PC's CD/DVD drive.
- Run the *CANDriversAndSoftware32.exe* for 32 bit operating systems or *CANDriversAndSoftware64.exe* for 64 bit operating systems.
- Please follow the instructions given by the setup software.



**NOTE:**

**Make sure to install the software before you install your CAN-PRO1-PCIE hardware for the first time.**

## 1.3 Hardware and driver installation

Once the software setup is finished please shut down the PC and follow the steps listed below to install the CAN-PRO1-PCIE hardware.



**NOTE:**

**To prevent damage to the CAN-PRO1-PCIE or to the PC, discharge yourself on a grounded object such as the metal housing of the PC before touching the board.**

- Make sure that the PC and all peripheral devices are powered down.
- Remove the housing cover (refer to the PC manual).
- Select an available PCI Express slot and remove the slot cover (bracket)
- Plug the board into the slot on the motherboard of the PC.
- Fasten the bracket of the CAN-PRO1-PCIE using the screw.
- Reassemble the housing cover.
- Turn ON the PC and applicable peripherals. > *The computer will recognize the new hardware.*
- When “New Hardware Wizard” asks if Windows Update should be connected select *No*.
- In the next step select *automatic software installation*. This will install all required drivers.

## 1.4 Driver configuration

CAN-PRO1-PCIE is recognized by the driver automatically. Nothing more is usually required. However, advanced configuration – like changing the name of a CAN channel or setting a default baudrate - is possible with the Softing CAN Interface Manager.

- Click *Start – All Programs – CAN – Runtime System Configuration – Softing CAN Interface Manager (SCIM)*
- For more details on the driver configuration click *Start – All Programs – CAN – Runtime System Configuration – SCIM\_Manual*

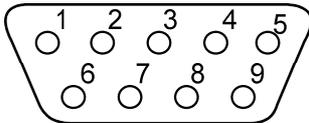
## 1.5 Application Software

How to use CAN-PRO1-PCIE and how to write application software, is described in the Software Manual.

- To open this manual click *Start – All Programs – CAN – CAN\_API - DOC – Softing Layer2*

## 2 CAN Connector Pin Assignment

Connector pinning complies to CiA standard DS 102.



Pinning of the 9 pin D-Sub connector

| Pin | Signal  |
|-----|---|
| 1   | N.C.  |
| 2   | CAN_L   |
| 3   | Isolated GND  |
| 4   | N.C.  |
| 5   | Drain connected to connector shield (1M/2.2n to isolated GND) |
| 6   | Isolated GND  |
| 7   | CAN_H   |
| 8   | N.C.  |
| 9   | N.C.  |

## 3 Status LED

The CAN channel has a status LED that shows its current status .

| Status LED     | Status                     |
|----------------|----------------------------|
| off            | no power or in reset state |
| flashing green | in initialization state    |
| solid green    | CAN started                |
| flashing red   | CAN error passive          |
| solid red      | CAN bus off                |

## 4 RoHS Information

CAN-PRO1-PCIE is RoHS compliant.



## 5 CE Information

This device complies with the requirements of the EC directive 2004/108/EC "Electromagnetic Compatibility" (EMC directive).



The product meets the following requirements:

- Emission: EN55022 Class B (ITE Product Standard)
- Immunity: EN61000-6-2 Generic Immunity Standard (industrial environments)

A "Declaration of Conformity" in accordance with the above standards has been made and is filed at Softing Industrial Automation GmbH, Germany.

### NOTE:

- To satisfy the EMC requirements, the equipment used (PC, monitor, CAN stations, etc.) also has to meet the EMC requirements. A shielded cable must be used. In addition, the cable shield must be grounded properly.

## 6 Technical data

- Unit: PCI Express card, acc. to PCIe specifications r1.0a and CEM 1.1
- CPU: XC161, 40 MHz with internal TwinCAN CAN controller
- Memory: 256 kbytes XC161 on-chip Flash, 512 kbytes RAM,
- PC interface: PCI Express, single lane, 512 kbytes shared RAM
- PC interrupt: controlled by the operating system
- CAN interface: galvanically isolated (1kV) CAN high speed according to ISO 11898-2
- CAN connector: Sub-D 9 pin male, pin assignment acc. to CiA DS102
- Baud rate: 3.125 kbit/s up to 1 Mbit/s
- Power supply: +12V ( $\pm 5\%$ ); typ. 60 mA  
+3.3V ( $\pm 5\%$ ); typ. 500 mA
- Temperature range: Operation: 0°C ... 70°C (board ambient, i.e. inside the PC)  
0°C ... 55°C (typ. PC ambient)  
Storage: -20°C ... 70°C
- Relative humidity < 90% (non-condensing)