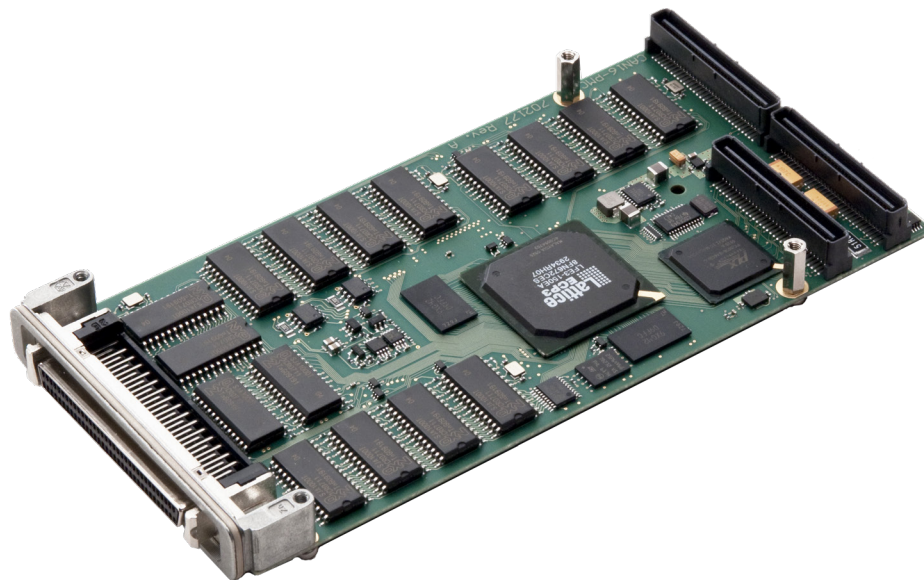**techSAT**

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CAN16-PMC
CAN 2.0 B Compliant PMC Module

- Compliant with CAN (ISO-11898) specification 2.0 B

- Intelligent plug-in board with up to 16 CAN interfaces

- Optimized for performance: support of DMA block transfers

- On-board FIFO data buffering (Tx and Rx)

- Extended remote transmit request capability

- High resolution timestamping (1 µs) for all received messages

- Applicable on PCI, cPCI, PXI, and PCIe hardware platforms

- Driver and API support for Windows and Linux

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Overview

The **CAN16-PMC** is a powerful CAN 2.0 B interface implemented on a PCI mezzanine card (PMC) form factor module. It implements all required CAN protocol functions in on-board firmware and FPGA logic, thereby offloading the host.

The CAN16-PMC supports up to 16 CAN interfaces, fully compliant with ISO-11898 specifications.

Features

To ensure a high-performance data transfer between the hardware and the user application, the CAN16-PMC implements DMA block transfers directly from an on-board FIFO buffer (1 MB/channel) to the user application memory.

Several concurrent applications can use the same CAN16-PMC; each application can access an individual channel.

On-board transmit message schedules can be either triggered by an external message with configurable CAN ID or by the host application (up to 128 external triggered schedules, up to 8000 entries for application triggered messages). A message list consists of multiple messages, which are stored on the board together with a specific timing.

Support of 11-bit and 29-bit CAN IDs in accordance with the CAN 2.0 B specification is guaranteed.

The CAN16-PMC can be used in »Listen-only Mode«.

Customer-specific firmware can be easily integrated at customer's site (in-system upgrade).

Software and Hardware Support

Used with dedicated carriers, the CAN16-PMC provides integration for PCI, cPCI, PXI, and PCIe platforms. It also provides a 68-pin SCSI front connector and a PMC rear I/O connector (P14).

The CAN16-PMC is shipped with a driver and an API library providing the application programmers with comprehensive means to program the interface card according to their specific requirements. Drivers and APIs are available for Windows and Linux platforms.

Technical Data

General
- Applicable on PCI, cPCI, PXI, and PCIe platforms
- Compliance with CAN specification 2.0 B
- Up to 16 CAN interfaces
- FPGA based CAN controllers
- Additional 32-bit microcontroller inside FPGA (application support processor)
- Driver supports DMA transfer
- On-board FIFO data buffering
- Extended remote transmit request capability
- IRIG-B time code synchronization
- Supports standard CAN bus speeds
- In-system upgrade supported
- On-board line termination enabled by SW
- On-board temperature sensor

Transmission & Reception
- High resolution (1 μs) timestamping for all received messages with optional IRIG-B time code synchronization
- Raw CAN bit stream recorded for every received message
- Transmit and receive statistics

Error Detection
- Listen-only mode
- Error detection: CRC, Acknowledge, Form, Bit, Stuff

Host Interface
- PCI 2.2 standard, 33/66 MHz, 32-bit interface
- Compatible with 3.3 V and 5 V PCI VI0

Software
SDK with C API and driver available for the following platforms:
- Windows® 10 64 bit
- CentOS 6 32 bit/64 bit
- CentOS 7 64 bit
- Drivers for other platforms on request

Physical Dimensions
- Single-size PMC: 74 mm x 149 mm

Operating Environment
- Operating temperature: 0 °C to 55 °C
- Storage temperature: –40 °C to 70 °C
- Humidity: 5 % to 90 % non-condensing

Power Consumption
- max. 7.5 W

Part Number
- 702177-02

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