

PCI Board Supports Four Controller Area Network (CAN) Channels

By Wilfred Voss

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esd electronics, Inc. announces the release of the CAN-PCI/405-2 interface board providing access to up to four independent CAN channels.

Controller Area Network (CAN) is a serial network technology that was originally designed for the automotive industry, especially for European cars, but has also become a popular bus in industrial automation as well as other applications. The CAN bus is primarily used in embedded systems, and as its name implies, is a network technology that provides fast communication among microcontrollers up to real-time requirements, eliminating the need for the much more expensive and complex technology of a Dual-Ported RAM (For further technical information on Controller Area Network refer to <http://www.CANNewsletter.com>).

The majority of industrial control applications based on CAN will require the use of higher layer protocols such as CANopen or DeviceNet, basically a protocol extension through additional software.

The CAN-PCI/405-2 interface board by esd electronics, Inc. is designed to support CAN as well as CANopen by means of the CANopen Application Programming Interface (API).

The board supports application requiring more than the usual single CAN channel, in this case up to four channels. The four channels can be assigned to support different baud rates for applications where, for instance, it is important to separate low-speed, low-priority signals (switches, etc.) from high-speed, high-priority signals (emergency services, etc.). Other application may require the monitoring of several independent CAN/CANopen networks.

The CAN - PCI/405 is a PC board designed with a PCI bus for the AMCC PowerPC 405 that operates at 200 MHz. This board is equipped with 32 Mbyte SDRAM and 2 Mbyte Flash. The CAN - PCI/405 uses PCI bus mastering to achieve high throughput and to relieve the main CPU.

esd electronics has designed the CAN - PCI/405 to provide two fully ISO 11898 compliant CAN interfaces based on SJA1000 CAN controllers, and high resolution hardware timestamps. Optionally, the CAN - PCI/405 offers an adapter board that accesses two additional CAN interfaces. The CAN interfaces allow a data transfer rate of 1 Mbit/s and are electrically isolated.

Software drivers are available for Windows, Linux, SGI IRIX6.5 and esd electronics, Inc. will make drivers for other operating systems available upon request. Higher Layer protocols such as CANopen and DeviceNet are available.

esd electronics, Inc. is a premier supplier of CAN modules including interfaces to systems such as PCI, CompactPCI, PMC, PCI Express, VME, USB, Ethernet, WLAN, Bluetooth and Profibus. Higher layer CAN protocols CANopen, DeviceNet, and SAE J1939 are supported for almost all interface boards. Moreover, almost any combination is available as a stand-alone gateway, especially for Ethernet.

Our hardware components are designed according to the highest industrial standards, and backed by a 2 year warranty.

All of our CAN components include complete opto-isolation (high-speed opto-couplers plus DC/DC converters) as a standard and they are 100% compliant to the CAN 2.0 A/B standard.

esd electronics' drivers/APIs support operating systems such as Windows 9x/Me/NT/2000/XP/CE/Vista including Windows RTX, various LINUX versions, LynxOS, PowerMAX OS, Solaris, AIX, VxWorks, QNX, and more.

For further information refer to <http://www.esd-electronics-usa.com> or contact our customer service manager, Michelle Dzialo, at michelle.dzialo@esd-electronics.com or per phone at 413-772-3170.

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esd electronics, Inc. has 20 years experience as qualified system integrators in industrial automation specializing in Controller Area Network (CAN) technologies CANopen, DeviceNet and J1939 providing CAN interfaces for PCI, PCIe, cPCI, ISA, VME, & PC104.

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