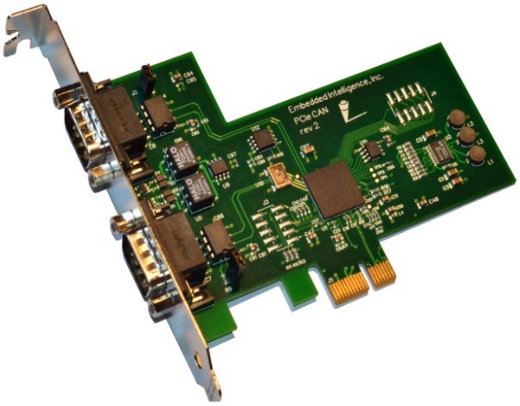
PCIe-CAN-02

FEATURES



- Two galvanically isolated CAN channels
- High speed ISO 11898 compliant interface supports up to 1 Megabit/sec bit rates.
- Supports CAN 2.0A and 2.0B message format
- PCI Express x1 interface
- On board 32-bit processor

DESCRIPTION

The PCIe-CAN-02 is a dual channel CAN interface card for the PCI Express bus. It's CAN interface is galvanically isolated to protect the PC hardware and provide better noise immunity in industrial environments.

The card incorporates a high performance 32-bit RISC processor. This processor handles all low level details of interfacing with the CAN hardware, offloading this task from the host processor. A 4Kbyte dual-port RAM is used to buffer messages to and from the host processor.

The on-board processor synchronizes it's local clock to the host processor clock. All received messages are time stamped using this clock with 1 microsecond accuracy. Transmitted messages may also be time stamped with their actual transmit time. This allows for simple implementation of the CANopen network synchronization protocol (DS301 object 1013h).

Device driver support is provided for Microsoft Windows, Linux and QNX. CANview bus monitoring software is available for both Windows and Linux hosts.

Value of on-board processor

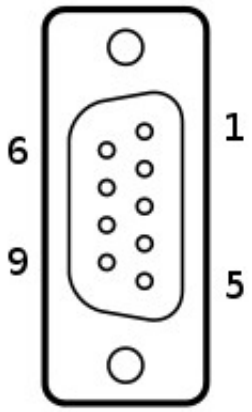
Many inexpensive CAN interface cards are little more then a PCI Express interface chip and one or more CAN controllers such as the SJA1000 from Philips. Cards such as this provide very little buffering on board and require the host processor to retrieve incoming messages very quickly or data will be lost. Desktop operating systems such as Microsoft Windows or Linux do not guarantee low latency response to external events, so at times of high bus activity it is common for inexpensive CAN interface cards to lose messages.

The on-board processor provided on the PCIe-CAN interface card solves this problem by handling each

CAN message as it's received and storing them in a large queue for each channel. Extended periods of 100% bus utilization can be sustained at maximum bit rate with no loss of data.

CAN Bus Connector – Dsub 9, male

PIN	Signal
1	No Connection
2	CAN Low
3	CAN Ground
4	No Connection
5	No Connection
6	CAN Ground
7	CAN High
8	No Connection
9	No Connection



Specifications

CAN Channels	2 independent, galvanically isolated.
CAN bit rate	20 kbps to 1000 kbps
Maximum message rate	20,800/sec each channel.
Message buffering	74 receive messages and 10 transmit messages / channel
On-board termination	120 Ohm, jumper selectable
Timestamp resolution	1 microsecond
OS supported	Windows, Linux, QNX
PCI interface	PCI Express x1
Input voltage	3.3V from PCIe connector
Input current	180mA typical
Operating temperature	-10° to 70° C
Dimensions	4.5” x 3.2” (114mm x 81mm)
Agency approvals	CE, FCC, RoHS