2-Channel CAN Interface CAN-PCI-104-02

Features

- PCI-104 Interface
- CAN 2.0A and 2.0B format
- 2 Isolated channels
- 32-bit RISC processor
- ISO 11898 high-speed to 1 Mbit/sec

Computer Interface

- PCI-104
- Fast dual-port RAM
- 3.3 V

Agency Approvals (Pending)

- CE, FCC
- RoHS 2002/95/EC

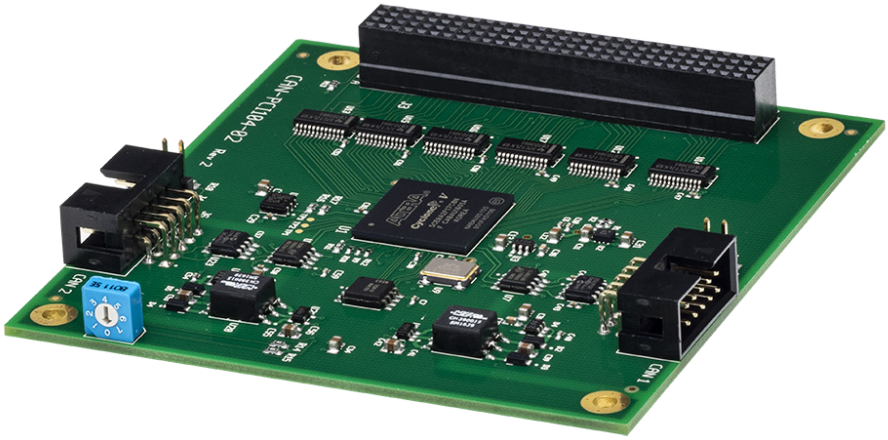
CAN Monitor Software

- View CAN messages
- CAN bus loading
- Diagnostics
- Download firmware

Plug-and-play

- CML & CMO software
- Xenus
- Accelnet
- Stepnet

CAN Interface Card
for PCI-104



DESCRIPTION

The CAN-PCI-104-02 is a dual channel CAN interface card for the PCI-104 bus. Galvanic isolation provides 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 4 Kbyte dual-port RAM is used to buffer messages to and from the host processor.

The on-board processor synchronizes its 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 (DS-301 object 0x1013).

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

Many inexpensive CAN interface cards are little more than a PCI 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 CAN-PCI-104-02 solves this problem by handling each CAN message as it is 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.

16-119217 Document Revision History

Revision	Date	Remarks
00	July 26, 2018	Initial released version

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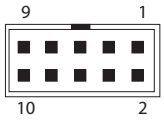
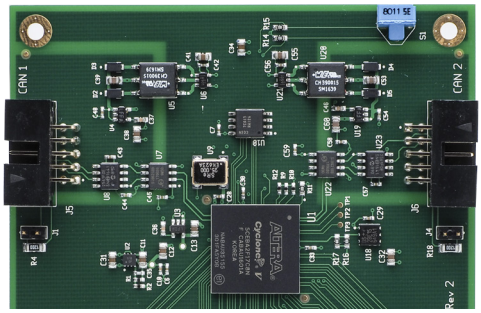
CAN BUS CONNECTORS

10-pin headers
J5 & J6

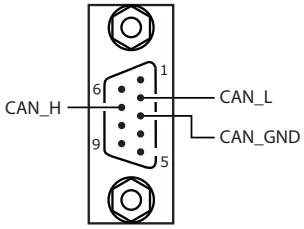


PCI Slot switch



CABLE CONNECTOR

Dsub 9M plug



CAN
Dsub 9M

CAN CABLES

SIGNAL	PIN		SIGNAL
N.C.	9	10	N.C.
N.C.	7	8	N.C.
CAN_GND	5	6	N.C.
CAN_L	3	4	CAN_H
N.C.	1	2	CAN_GND

SIGNAL	PIN		SIGNAL
N.C.	5		
N.C.	4	9	N.C.
CAN_GND	3	8	N.C.
CAN_L	2	7	CAN_H
N.C.	1	6	CAN_GND

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-104
Slot switch	A maximum of four CAN-PCI-104-02 can be used in a PCI-104 stack. The slot-switchs can be set from 0~3 to identify each with a unique value.
Input voltage	5V and 3.3V from PCI-104 connector
Input current	<tbd>
Operating temperature	-10° to 70° C
Dimensions	3.55 in x 3.78 in (90.2 mm x 95.9 mm)
Agency approvals	CE, FCC, RoHS

SOFTWARE

Software, firmware, and drivers listed below are on the Copley Controls web-site.

- Installation Guide
- CANview.exe for Windows®
- CANview for Linux®
- API for Windows® & Linux®
- Firmware
- Drivers for Windows® and Linux

ORDERING GUIDE

PART NUMBER	DESCRIPTION
CAN-PCI-104-02	Dual-channel CAN interface card for PCI-104 with 2 cables included