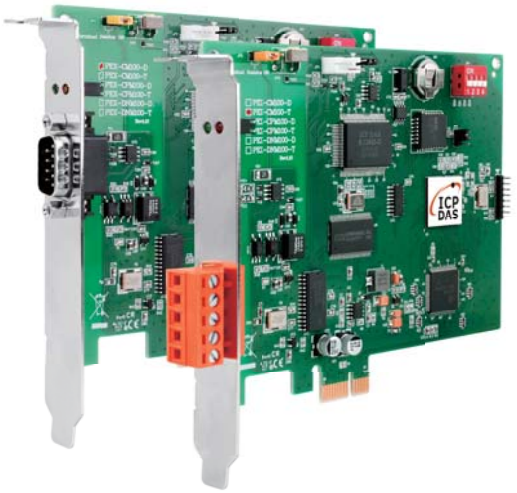


PEX-CM100-D PEX-CM100-T

1-port Programmable CAN PCI Express Board

Features

- Built-in default firmware for CAN Port communication
- User-defined firmware executable
- Support both CAN 2.0A and CAN 2.0B
- Allow user-defined CAN baud
- Provide 5 sets of cyclic transmission
- Timestamp with at least ±1ms precision
- Build-in 120Ω Jumper
- DIP switch to select board number
- Dual port RAM communication mechanism
- RTC (real time clock) inside
- PC-side monitoring software for user-defined firmware debugging

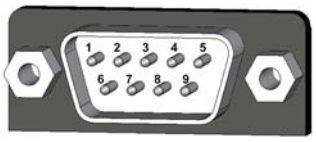
Introduction

The CAN (Controller Area Network) is a serial communication protocol, and efficiently supports distributed real-time control with a very high level of security. It is an especially suited for networking "intelligent" devices as well as sensors and actuators within a system or sub-system. In CAN networks, there is no addressing of subscribers or stations in the conventional sense, but instead prioritized messages are transmitted.

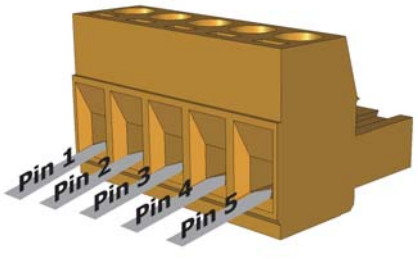
ICP DAS provides an open architecture platform for CAN bus PEX-CM100. The PEX-CM100 represents a very powerful and economic solution of an active CAN board with one CAN channels, covering a wide range of CAN applications. The 16-bit on-board microcontroller allows, among many other features, the filtering, preprocessing, and storage (with timestamp) of CAN messages as well as the real-time transmission of CAN messages. PEX-CM100 also uses the new Phillips SJA1000T and Transceiver 82C250/251, which provide bus arbitration and error detection with auto correction and re-transmission function. Under the effect of the powerful microcontroller, this card can be made for one CAN controller without losing data, even in systems with a high bus load. Besides, equipped with integrated intelligence functions, the PEX-CM100 makes it is possible to preprocess CAN data streams, thus relieving the PC of a considerable burden. As a result, real-time requirements on the PC applications are drastically reduced. Due to the state-of-the-art, it can be installed in a slot of PCI Express bus and supported truly "Plug & play" technology.

In addition, users can develop their own CAN application by using the PEX-CM100 library. When the PEX-CM100 is active, the data exchange between users' application and can bus firmware is performed via the memory mapping method of the PEX-CM100.

Pin Assignments



Pin No.	Signal	Description
1	N/A	No use
2	CAN_L	CAN_L bus line
3	CAN_GND	Ground
4	N/A	No use
5	CAN_SHLD	Optional CAN Shield
6	CAN_GND	Ground
7	CAN_H	CAN_H bus line
8	N/A	No use
9	N/A	No use



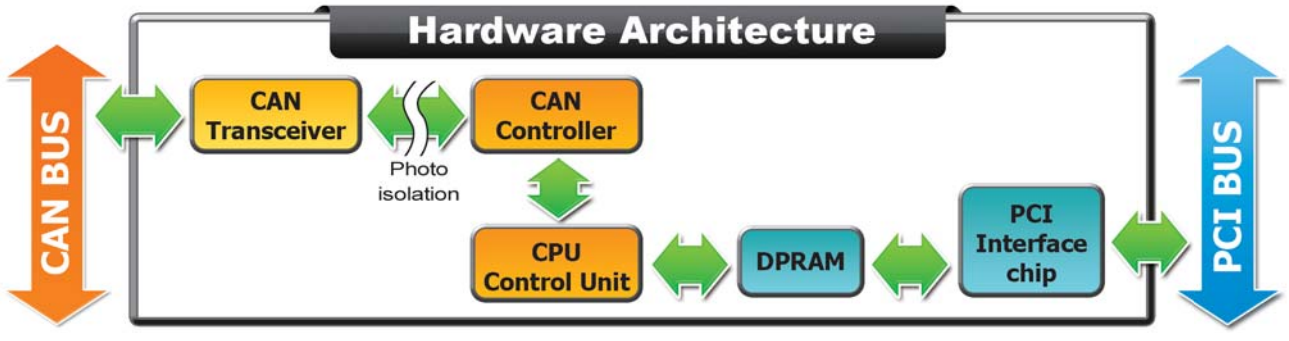
Pin No.	Signal	Description
1	CAN_GND	Ground
2	CAN_H	CAN_H bus line
3	CAN_SHLD	Optional CAN Shield
4	CAN_L	CAN_L bus line
5	N/A	No use

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Specifications

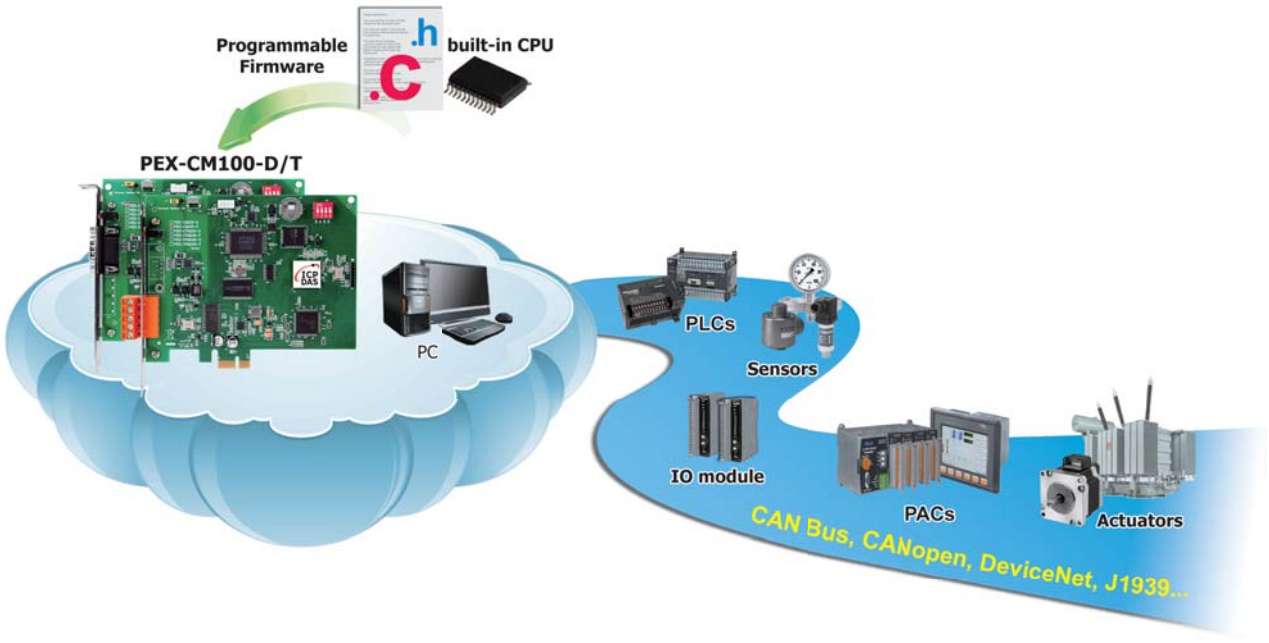
Model Name	PEX-CM100-D	PEX-CM100-T
Hardware		
CPU	80186, 80 MHz or compatible	
OS	MiniOS7	
SRAM	512 KB	
Flash	512 KB (128 KB for system, 384 KB for users' applications), 64 KB for one sector (erase unit), 100,000 erase/write cycles	
EEPROM	16 KB (1 KB for system information, 15 KB for users' applications), 40-year data retention, 1 million erase/write cycles	
DPRAM	8 KB (1 kB for system, others for users' applications)	
NVRAM	31 bytes (battery backup, data valid for up to 10 years)	
RTC (Real Time Clock)	Seconds, minutes, hours, date of week, date of month, month and year, valid from 1980 to 2079	
Bus Interface		
Type	PCI Express bus	
Board No.	By DIP switch	
CAN Interface		
Controller	NXP SJA1000T with 16 MHz clock	
Transceiver	NXP 82C250	
Channel number	1	
Connector	9-pin male D-Sub Connector	5-pin Screwed Terminal Connector
Baud Rate (bps)	10 k, 20 k, 50 k, 125 k, 250 k, 500 k, 800 k, 1 M (allow user-defined baud rate)	
Isolation	3000 VDC for DC-to-DC, 2500 Vrms for photo-couple	
Terminator Resistor	Jumper for 120 Ω terminator resistor	
LED		
LED Indicator	Green LED, Red LED (In default firmware: Green for Tx/Rx, Red for Err)	
Power		
Power Consumption	300 mA @ 5 V	
Software		
Driver	Windows 2K / XP / 7 / 10 (x32 & x64)	
Library	VC++, VB.net, C#.net for PC, TC1.01, BC3.1 for Firmware	
Mechanism		
Dimensions (W x L x H)	133mm x 22mm x 98mm	
Environment		
Operating Temp.	0 ~ 60 °C	
Storage Temp.	-20 ~ 70 °C	
Humidity	5 ~ 85% RH, non-condensing	

Hardware Architecture



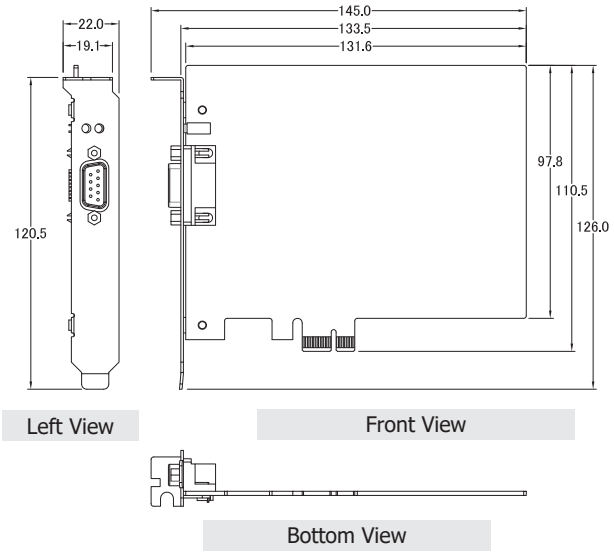
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Applications

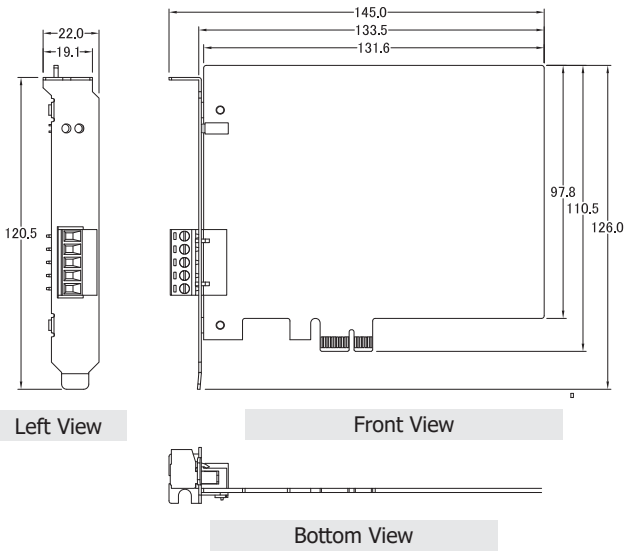


Dimensions (Units: mm)

PEX-CM100-D



PEX-CM100-T



Ordering Information

PEX-CM100-D CR	1-port Programmable CAN PCI Express Board (9-Pin D-sub Connector) (RoHS)
PEX-CM100-T CR	1-port Programmable CAN PCI Express Board (5-pin Screw Terminal Connector) (RoHS)

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