PEX-CPM100-D PEX-CPM100-T

1 Port Intelligent CANopen Master PCI Express Board

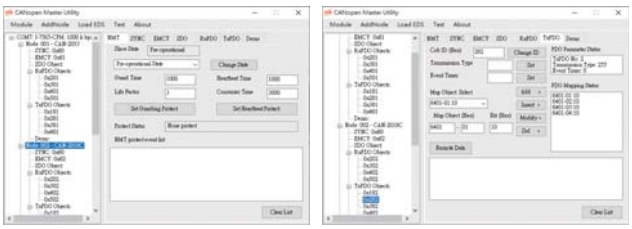
Features

- Standard CANopen specification CiA 301 v4.02
- Support 127 slaves
- Scan function for scanning all nodes on the CANopen network
- Provide master listen mode
- Support both Node Guarding Protocol and Heartbeat Consumer Protocol
- Provide event trigger function for EMCY, Node Guarding and Heartbeat
- Provide Event-triggered, remote-requested, cyclic and acyclic SYNC of PDO mode
- PDO supports single-byte output, dynamic mapping and read multiple PDO data
- The SDO communication supports segment protocol
- Support EDS file
- Allow the automatic adding the node while it boots up

Introduction

The PEX-CPM100 gives a very powerful and economic solution of an active CANopen master device with one CAN channel. It uses the NXP SJA1000T and 82C250 to be the CAN controller and transceiver, which provide bus arbitration, error detection with auto correction and re-transmission function. The 16-bit on-board microcontroller with real-time O.S., MiniOS7, allows many features, such as real-time message transmission and reception, filtering, preprocessing, and storage of CAN messages. Under the effect of the powerful microcontroller, this card can be made for one CAN controller manager without losing data, even in systems with a high PCI bus load. Therefore, the CANopen critical process can be implemented directly by CANopen firmware in the PEX-CPM100. In addition, users can develop their CANopen application by using the CANopen library on the host computer. When the PEX-CPM100 is active, the data exchange between users' application and CANopen firmware is performed via the memory mapping method of the PEX-CPM100.

CPM Utility



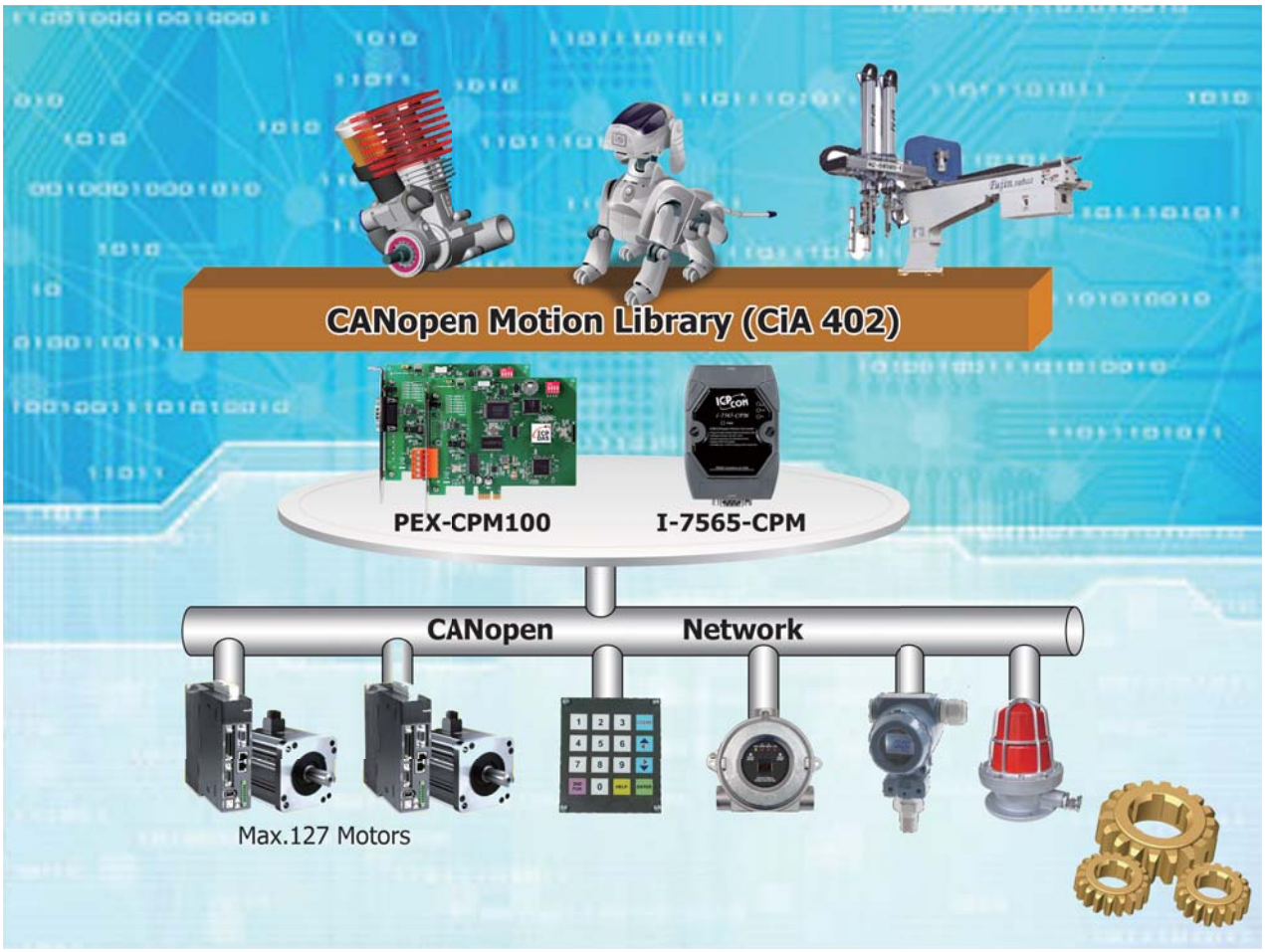
The software utility can easily to access the I/O data of all the slave devices. The users can monitor the input data of the specific slave device and change the output data to the remote slave device with this utility.

Specifications

Model Name	PEX-CPM100-D	PEX-CPM100-T
PC Bus		
Type	PCI Express bus	
Board No.	By DIP switch	
CANopen		
Controller	NXP SJA1000T built-in microprocessor	
Ports	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	
Isolation	3000 VDC for DC-to-DC, 2500 Vrms for photo-couple	
Terminal Resistor	Jumper for 120 Ω terminal resistor	
Specification	ISO-11898-2, CAN 2.0A and CAN 2.0B	
Protocol	CiA 301 v4.02	
NMT	Master	
LED		
LED Indicator	1 x Power and Communication	
Power		
Consumption	300 mA @ 5 V	
Software		
Driver	Windows XP/7/8/10 (32-bit/64-bit OS)	
SDK	VC++, VB.net, C#.net	
Mechanism		
Dimensions (mm)	133 x 22 x 98 (W x L x H)	
Environment		
Operating Temperature	0 ~ 60 °C	
Storage Temperature	-20 ~ 70 °C	
Humidity	5 ~ 85% RH, non-condensing	

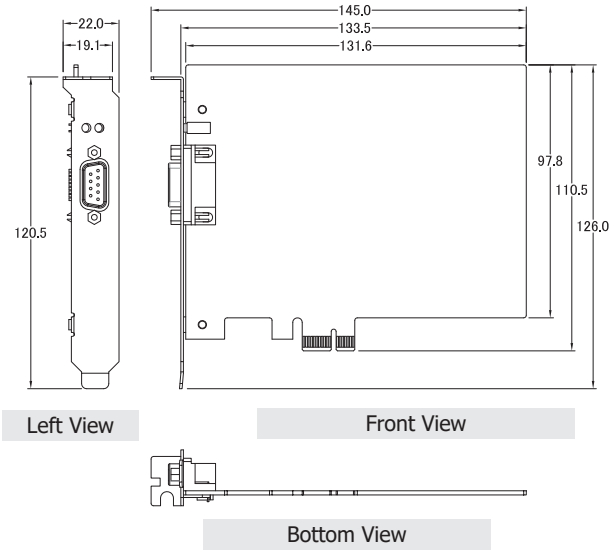
CANopen Motion Library

CANopen boards provide motion control library that follow the CiA 402 specification and support a variety of motion controls, such as position control, velocity control, torque control, and synchronous control, which enables multi-axis motion control from a single master without the need to understand the complex CANopen protocols. The library makes it easier and more convenient to build a motion control application system.

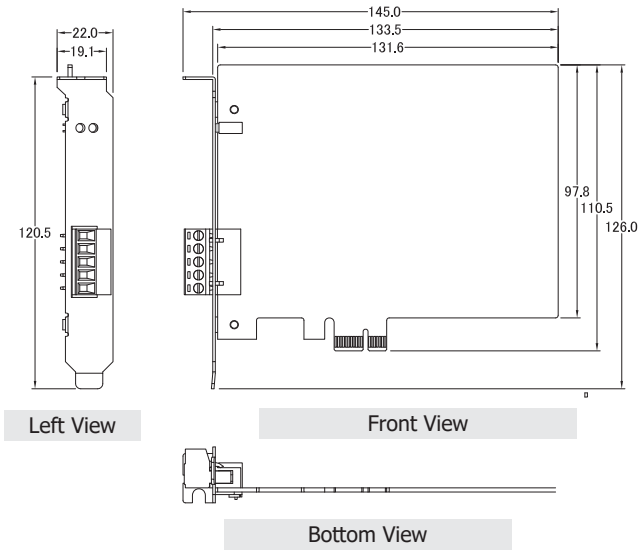


Dimensions (Units: mm)

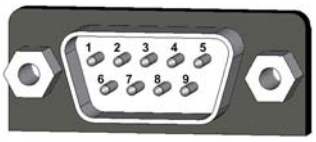
PEX-CPM100-D



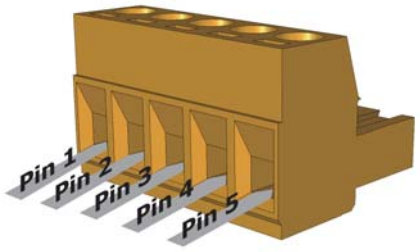
PEX-CPM100-T



Pin Assignments

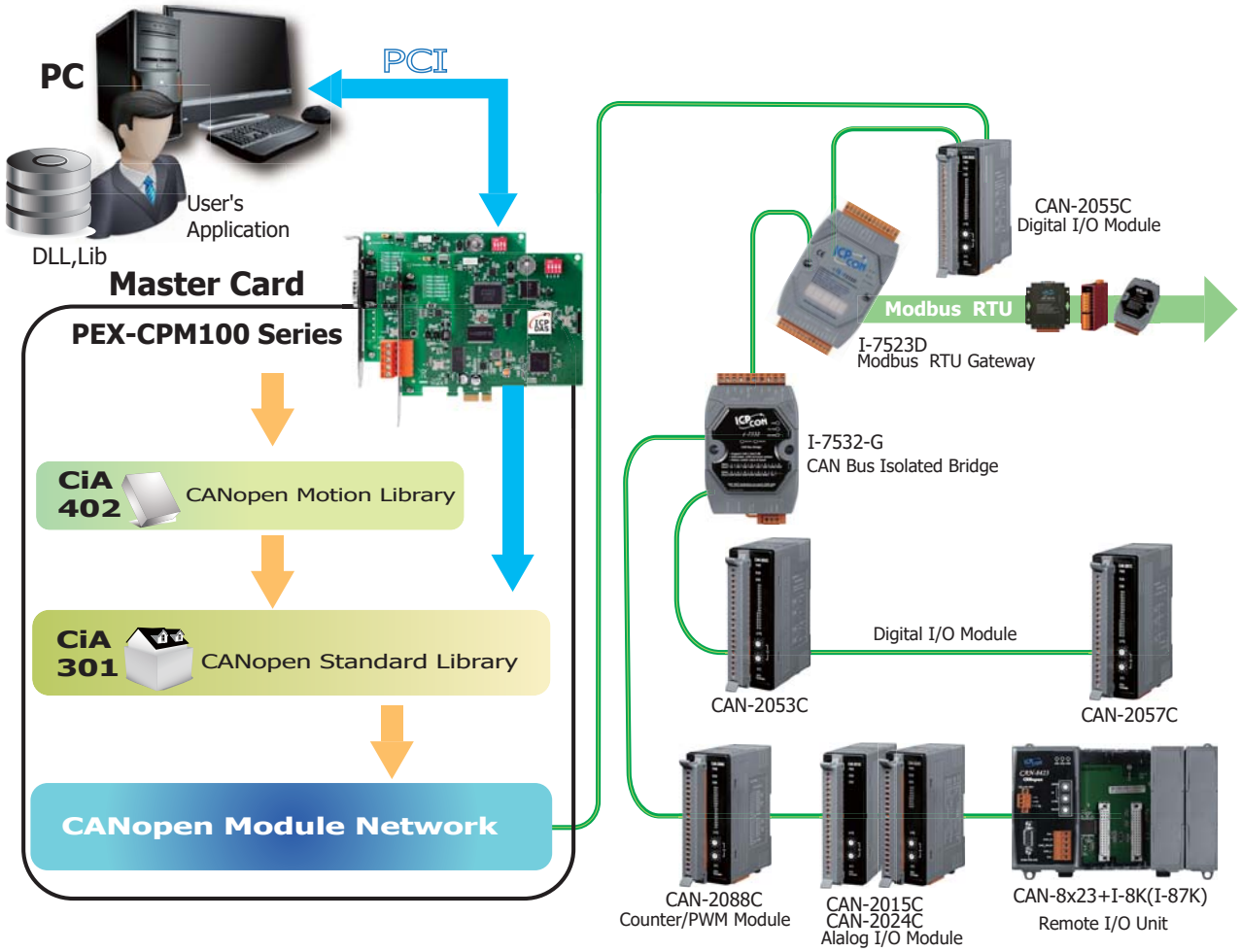


Pin No.	Signal	Description
1	N/A	No use
2	CAN_L	CAN_L bus line
3	CAN_GND	Ground
4	N/A	No use
5	CAN_SHLD	Optional CAN Shield
6	CAN_GND	Ground
7	CAN_H	CAN_H bus line
8	N/A	No use
9	N/A	No use



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

Applications



Ordering Information

PEX-CPM100-D CR	1 Port Intelligent CANopen Master PCI Express Board (9-Pin D-sub Connector) (RoHS)
PEX-CPM100-T CR	1 Port Intelligent CANopen Master PCI Express Board (5-Pin Screw Terminal Connector) (RoHS)