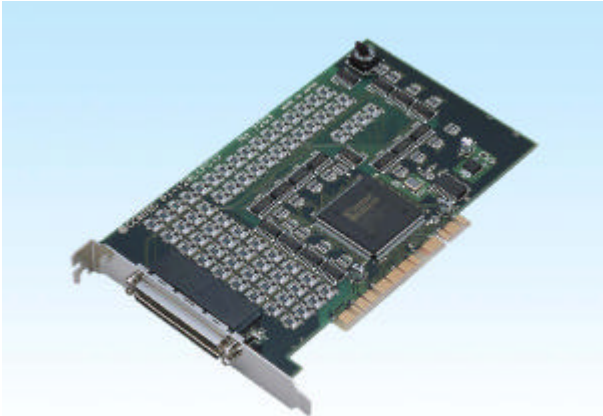


PCI Bus Opto-Isolated Digital Input Board

PI-128L(PCI)



This board is a PCI-compliant interface board for input of digital signals.

The board can input the open/closed circuit states of switches and can control relays.

The board can input up to 128 channels.

Using the bundled API function library package [API-PAC (W32)], you can create Windows application software for this board in your favorite programming language supporting Win32 API functions, such as Visual Basic or Visual C/C++.

*A PCB100/96PS optional cable is required separately.

Features

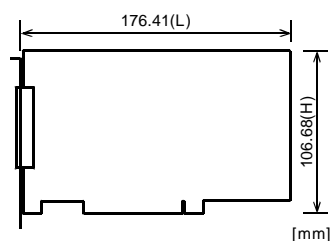
- Common power-supply configuration in 16 channel units, capable of supporting different external power supplies.
- Opto-coupler used to electrically isolated I/O signal interface from the PCI bus, offering good noise immunity.
- Capable of using up to 16 channels of input signals as interrupt inputs.
 - Also capable of selecting the input signal edge for generating interrupts
- Digital filtering that prevents input signal noise and chattering.
- Output ability: up to 35VDC, 100mA per signal, max.
- Zener diode connected to output transistors for protection from surge voltage. Over-current protective device provided for every eight channels of output transistors.

Specification

	Item	Specifications
Input	Type	Opto-Isolated Input (for current sinking output) (Negative logic *)
	Number of Channels	128 channels (16 of these 128 can be used as interrupt signal) (16 channels share a positive common)
	Resister	4.7kΩ
	Current required to turn ON	2.0mA(Min.)
	Current required to turn OFF	0.16mA(Max.)
	Interrupts	Combine four interrupt signals to one interrupt request signal as the INTA. Either rising edge or falling edge of input signal can generate interrupt.
	Response time	200μsec(Max.)
	Common	I/O address
Interrupt level		1 level use
Boards in one system		Maximum of 16 boards can be install in a same system.
Isolated voltage		250Vrms
External power supply		12 to 24VDC(±10%)
Power consumption		5VDC 500mA(Max.)
Operating condition		0 to 50°C, 10 to 90%RH (No condensation)
Connecting distance		50m(Typ.)(depending on wiring environment)
PCI bus specification		32bit, 33MHz, 5V
Dimension (mm)		176.41(L)×106.68(H)
Weight		215g

* Data "0" and "1" correspond to the High and Low levels, respectively.

Board size



The standard outside dimension (L) is the distance from the end of the board to the outer surface of the slot cover.

Support Software

API Function Library

The bundled CD-ROM "API Function Library Package API-PAC(W32)"

API-PAC(W32) is the library software that provides the commands for CONTEC hardware products in the form of Windows standard Win32 API functions (DLL).

It makes it easy to create high-speed application software taking advantage of the CONTEC hardware using various programming languages that support Win32 API functions, such as Visual Basic and Visual C/C++.

Use the installed diagnosis program to check whether the board and driver software work normally, thereby you can confirm that they have been set up correctly.

For details, refer to the help file. The help file provides various items of information such as "Function Reference", "Sample Programs", and "FAQs". Use them for program development and troubleshooting.

< Operating environment >

Support OS

Windows XP, Windows 2000 Professional, Windows NT, Windows Me/98/95

Support Language

Visual C++ Version 6.0, 5.0, 4.x, 2.0

Visual Basic Version 6.0, 5.0, 4.0

Visual C++ .NET

Visual Basic .NET

Borland C Version 5.0, 4.5x

Borland C++ Builder 6.0, 5.0

Borland Delphi 6.0, 4.0 3.0

The newest driver and download service (<http://www.contec.com/apipac/>) of difference file are also offered.

Library for digital I/O boards API-DIO(LNX)

It is free download service of the driver for Linux.

The API-DIO(LNX) is a library for controlling our digital I/O board in Linux.

Feature

API-DIO (LNX) offers the function group for controlling our digital I/O board by shared library and the driver of module form.

Fundamental functions, such as input and output, interrupt, trigger function and timer function are offered.

It configure the device to be used by the setting program (config) and the setting file.

A configuration program outputs the setting file that makes easy to execution environment, a driver starting script and a stop script.

The source code for user interrupt processing is included and used with a driver.

You can download updated driver software and differential files as well as sample programs available in several languages.

Accessories (Option)

Accessories (Option)

Screw Terminal: EPD-96 *1

Digital I/O 64CH Series Terminal Panel: DTP-64(PC) *1

Signal Monitor for Digital I/O(64Bits): CM-64(PC)E *1

*1: A PCB100/96PS optional cable is required separately.

Cable & Connector (Option)

Cable & Connector (Option)

Connection Conversion Shield Cable (100P-->96P)

: PCB100/96PS-*(1.5m, 3m, 5m)

Product Configuration List

Product Configuration List

- Board[PI-128L(PCI)] ... 1

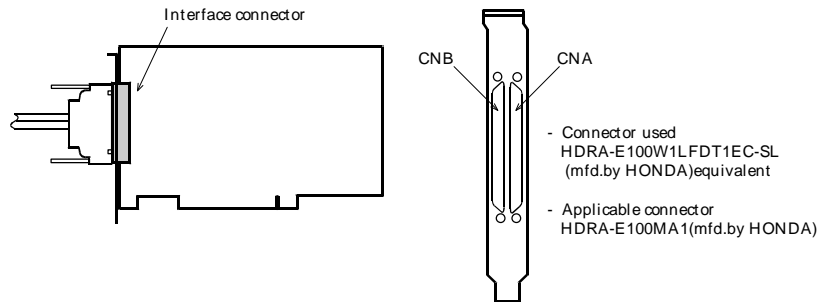
- This User's Manual ... 1

- CD-ROM [API-PAC(W32)] ... 1

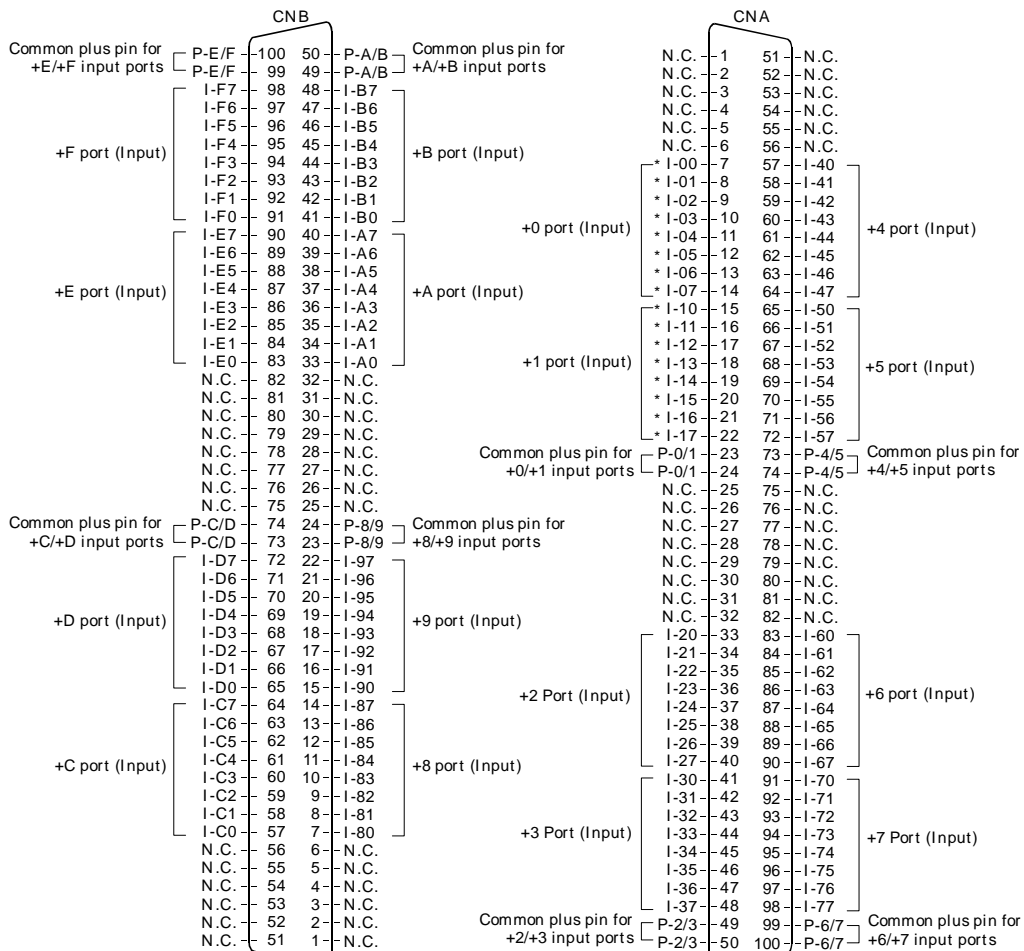
External Connection

Connecting the Interface Connector

To connect an external device to this board, plug the cable from the device into the interface connector (CAN,CNB) shown below.



Connector Pin Assignment

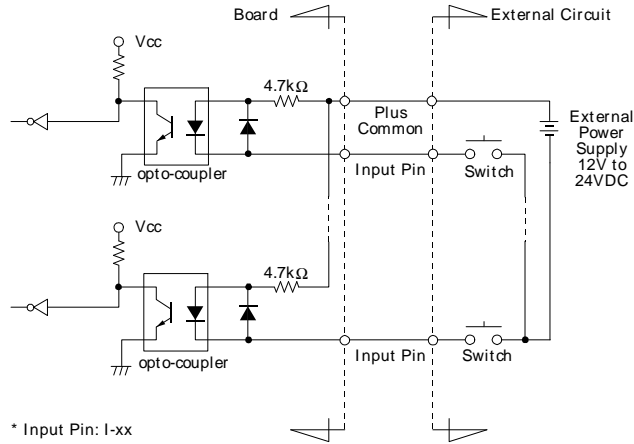


I-00-I-F7	128 input signal pins. Connect output signals from the external device to these pins.
P-0/1~P-E/F	Connect the positive side of the external power supply. These pins are common to 16 input signal pins.
N.C.	This pin is left unconnected.

Connecting Input Signals

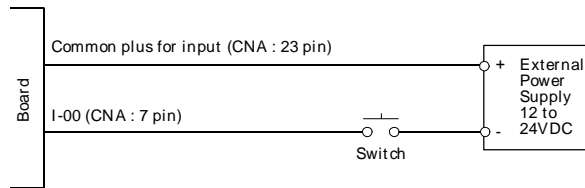
Connect the input signals to a device that can be current-driven, such as a switch or transistor output device. The connection requires an external power supply to feed currents. The board inputs the ON/OFF state of the current-driven device as a digital value.

Input Circuit



The input circuit of this board is illustrated in the figure. The on-board opto-couplers isolate internal input circuits from outside devices. The input channels are to be connected with current sinking output signals. Driving these opto-isolated circuits require an additional power supply isolated from the PC system. When a 12VDC external power is used, each input channel will consume about 2.6mA current; when a 24VDC external power supply is selected, each input channel will consume about 5.1mA current.

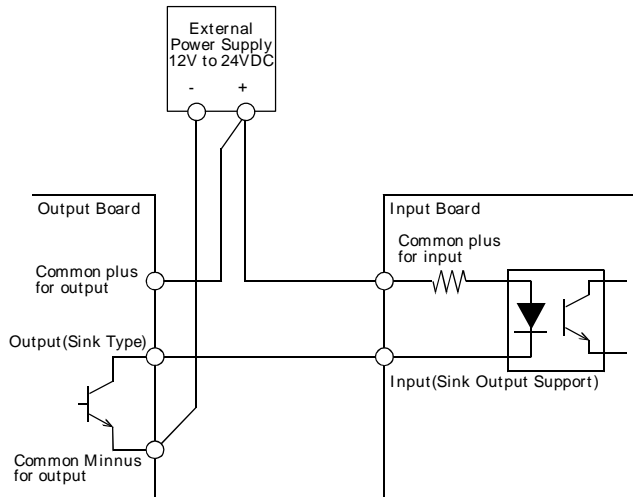
Connection example



When switch is "ON", the corresponding bit will be "1".
In contrast, when switch is "OFF", the bit will be "0".

Connecting the Sink Type Output and Sink Output Support Input

The following example shows a connection between a sink type output (output board) and a sink output support input (input board). Refer to this connection example when you connect such boards to each other.



Block Diagram

