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Find the *Contec DIO-48D2-PCI* at our website: ***Click HERE***

Bi-Directional Digital I/O Board for PCI

DIO-48D2-PCI



This product is a PCI bus-compliant interface board that extends the input/output function of

bi-directional digital signal. This board has up to 48 unisolated TTL-level input/output channels that is powered by the equivalence to the mode 0 of i8255 chips, and you can use up to 48 channels of the input signals as interrupt inputs. You can select the input/output by the application software in eight signals units (in four signals unit for some inputs/outputs). Additionally, the digital filter function is equipped with this product. Windows/Linux driver is bundled with this product.

Using the dedicated library VI-DAQ makes it possible to create each application for LabVIEW.

* Specifications, color and design of the products are subject to change without notice.

Features

This board can be used to input/output 48 points bi-directional digital corresponding to the equivalence to the i8255 mode 0.

This board has up to 48 unisolated TTL-level input/output channels whose response speed is 200μsec that is powered by the equivalence to the mode 0 of i8255 device for general-purpose. You can select the input/output by the application software in eight signals units (in four signals unit for some inputs/outputs).

You can use up to 48channels of the input signals as interrupt events.

You can use up to 48channels of the input signals as interrupt events and also disable or enable the interrupt in bit units and select the edge of input signals, at which to generate an interrupt.

This product has a digital filter function to prevent wrong recognition of input signals from carrying noise or a chattering.

This product has a digital filter function to prevent wrong recognition of input signals by noise or chattering is provided. All input terminals can be added a digital filter, and the setting can be performed by software.

Windows/Linux compatible driver libraries are attached.

Using the attached driver library API-PAC(W32) makes it possible to create applications of Windows/Linux. In addition, a diagnostic program by which the operations of hardware can be checked is provided.

Connectors are compatible with PCI compatible board PIO-48D(PCI).

There is compatibility in terms of connector shape and pin assignments with PCI compatible board PIO-48D(PCI), it is easy to migrate from the existing system.

LabVIEW is supported by a plug-in of dedicated library VI-DAQ.

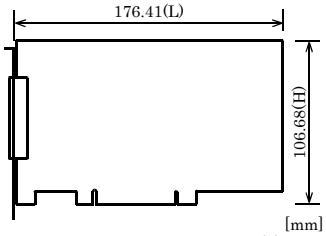
Using the dedicated library VI-DAQ makes it possible to create each application for LabVIEW.

Specification

Item		Specification
I/O		
	I/O format	Unisolated TTL-level input (Positive logic)
	Number of I/O channels	48 channels (all available for interrupts)
	Pull-up resistance	10kΩ
	Interrupt	48 interrupt input signals are arranged into a single output of interrupt signal INTA. An interrupt is generated at the rising edge (LOW-to-HIGH transition).
	Response time	Within 200nsec
	Rated output current	I_{OL}=24mA (Max.) I_{OH}=-15mA (Max.)
Common		
	I/O address	Any 32-byte boundary (Common to I/O part)
	Power consumption (Max)	5VDC 600mA
	Operating condition	0 - 50°C, 10 - 90%RH (No condensation)
	Allowable distance of signal extension	Approx. 1.5m (depending on wiring environment)
	Bus specification	PCI (32bit, 33MHz, Universal key shapes supported *2)
	Dimension (mm)	176.41(L) x 106.68(H)
	Connector	
	CN1	96 pin half pitch connector [F (female) type] PCR-E96LMD+ [mfd. by HONDA TSUSHIN KOGYO CO., LTD.] or equivalent to it
	CN2,3	50 pin IC pitch pin header connector PS-50PE-D4T1-B1A [mfd.by JAE] or equivalent to it
	Weight	130g

*1 Data “0” and “1” correspond to the High and Low levels, respectively.
*2 This board requires power supply at +5V from an expansion slot (it does not work on a machine with a +3.3V power supply alone).

Board Dimensions



[mm]

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

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Support Software

Windows version of digital I/O driver

API-DIO(98/PC) / API-DIO(WDM) [Stored on the bundled CD-ROM driver library API-PAC(W32)]

The API-DIO(98/PC) is the Windows version driver library software that provides products in the form of Win32 API functions (DLL). Various sample programs such as Visual Basic and Visual C++, etc and diagnostic program useful for checking operation is provided.

< Operating environment >

OS	Windows Vista, XP, Server 2003, 2000
Adaptation language	Visual Basic, Visual C++, Visual C#, Delphi, C++ Builder

You can download the updated version from the CONTEC's Web site (http://www.contec.com/apipac/). For more details on the supported OS, applicable language and new information, please visit the CONTEC's Web site.

Linux version of digital I/O driver API-DIO(LNX)

[Stored on the bundled CD-ROM driver library API-PAC(W32)]

The API-DIO(LNX) is the Linux version driver software which provides device drivers (modules) by shared library and kernel version. Various sample programs of gcc are provided.

< Operating environment >

OS	RedHatLinux, TurboLinux (For details on supported distributions, refer to Help available after installation.)
Adaptation language	gcc

You can download the updated version from the CONTEC's Web site (http://www.contec.com/apipac/). For more details on the supported OS, applicable language and new information, please visit the CONTEC's Web site.

Data acquisition VI library for LabVIEW

VI-DAQ (Available for downloading (free of charge) from the CONTEC web site.)

This is a VI library to use in National Instruments LabVIEW. VI-DAQ is created with a function form similar to that of LabVIEW's Data Acquisition VI, allowing you to use various devices without complicated settings.
See http://www.contec.com/vidaq/ for details and download of VI-DAQ.

Cable & Connector

Cable (Option)

Shield Cable with 96-Pin
Half-Pitch Connectors at Both Ends : PCB96PS-0.5P (0.5m)
: PCB96PS-1.5P (1.5m)
Flat Cable with 96-Pin Half-Pitch Connectors at Both Ends
: PCB96P-1.5 (1.5m)
Shield Cable with 96-Pin Half-Pitch Connectors at One End
: PCA96PS-0.5P (0.5m)
: PCA96PS-1.5P (1.5m)
Flat Cable with 96-Pin Half-Pitch Connectors at One End
: PCA96P-1.5 (1.5m)
Flat cable with single-ended connector for 50-pin
: PCA50J-1.5 (1.5m)

Connector (Option)

Half-pitch 96-pin Female Connector Set (5 Pieces)
: CN5-H96F

Accessories

Accessories (Option)

Screw Terminal (M3 x 96)	: EPD-96A *1
Screw Terminal (M3.5 x 96)	: EPD-96 *1
Terminal Unit for Cables	: DTP-64(PC) *1

*1 PCB96P-1.5, PCB96PS-0.5 or PCB96PS-1.5 optional cable is required separately.

* Check the CONTEC's Web site for more information on these options.

Packing List

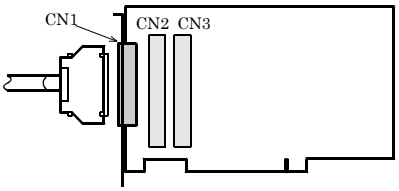
Board [DIO-48D2-PCI] …1
First step guide … 1
CD-ROM *1 [API-PAC(W32)] …1

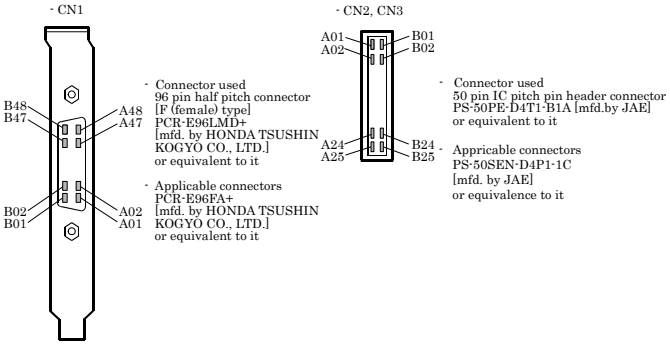
*1 The CD-ROM contains the driver software and User's Guide.

How to connect the connectors

Connector Shape

To connect an external device to this board, plug the cable from the device into the interface connector (CN1 or CN2 and CN3) shown below.





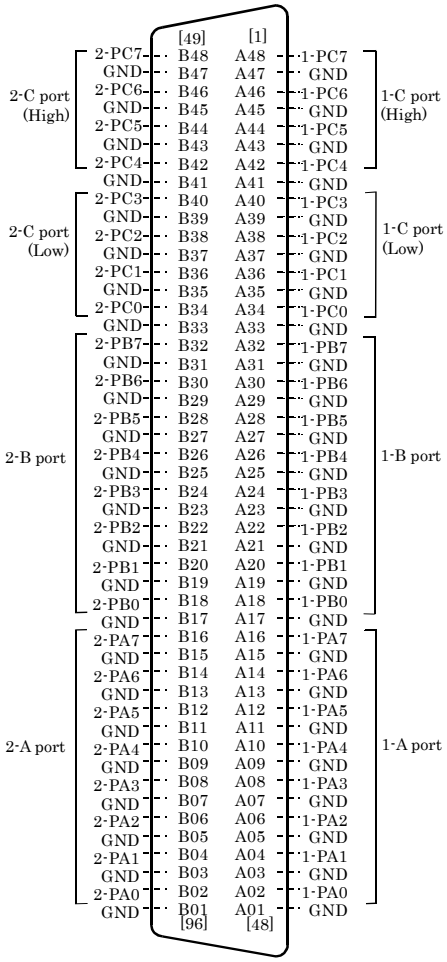
⚠ CAUTION

- CN2 and CN3 are designed assuming the connection to any other board or device in the same PC (system).
- For connecting CN2 or CN3 to a device outside the PC, use an adjacent expansion slot as required.
- The 96-pin connector (CN1) and 50-pin connectors (CN2 and CN3) are mutually exclusive. Use either of them at a time.

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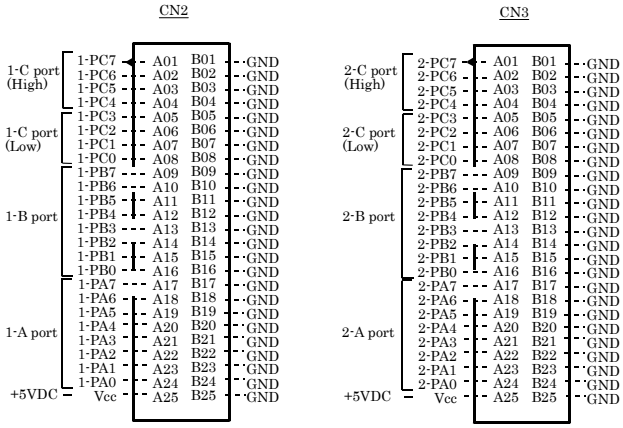
Connector Pin Assignment

<Pin Assignments of Interface Connector (CN1)>



* The numbers in square brackets [ ] are pin numbers designated by HONDA TSUSHIN KOGYO CO., LTD.

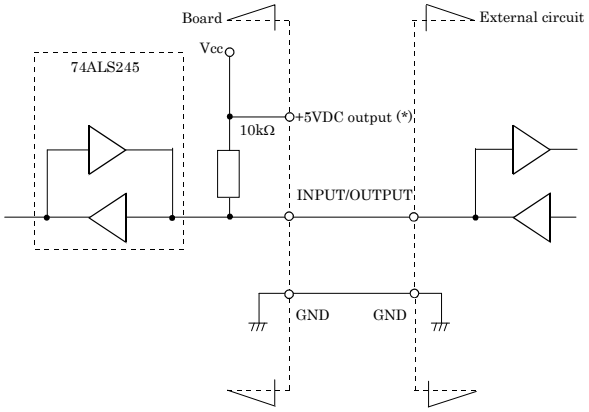
< Pin Assignments of Interface Connector (CN2, CN3)>



Connecting I/O Signals

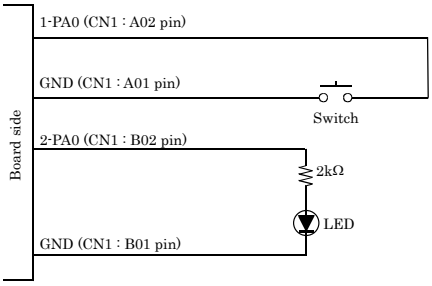
The I/O circuits of interface blocks of the DIO-48D2-PCI are illustrated in Figure below. Signals are TTL levels and positive logic. Each of the signal is pulled up.

I/O Circuit



(*) Only CN2 and CN3 has +5VDC output pin. Current to be able to supplied is within 1A (total).

Example of Connection

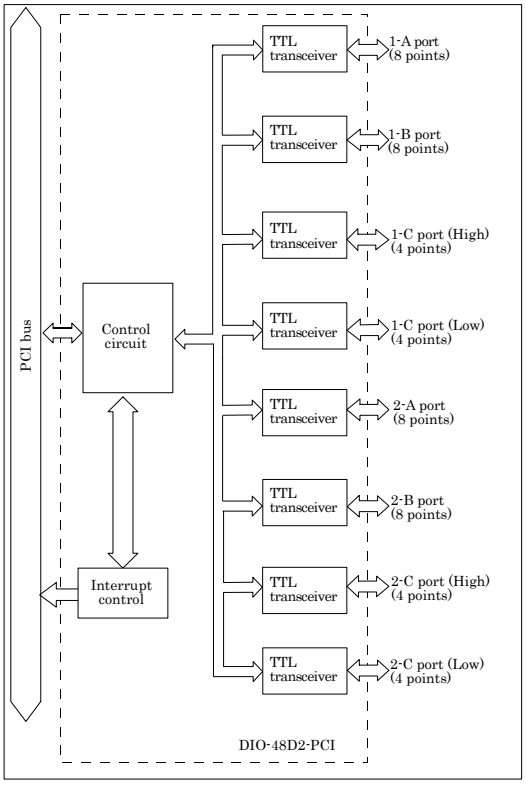


When switch is "ON", the corresponding bit is "0".
When switch is "OFF" in contrast, the corresponding bit is "1".
When "1" is output to a relevant bit, the corresponding LED comes on.
When "0" is output to the bit, in contrast, the LED goes out.

About the Protection Feature

The +5VDC output of the board is provided with a PolySwitch-based protection feature. If the +5VDC output is accidentally connected to GND, the protection feature works and it may disable the board temporarily. In that case, turn the PC off, wait for a few minutes, then turn the PC back on.

Block Diagram



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