Bi-Directional Digital I/O Board for PCI

DIO-48D2-PCI

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

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 supported.

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

* The contents in this document are subject to change without notice.
* Visit the CONTEC website to check the latest details in the document.
* The information in the data sheets is as of September, 2022.

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 200□sec 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 supported.
Using the digital I/O driver 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.

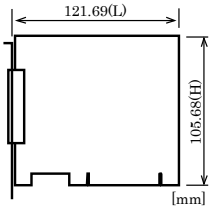
LabVIEW is supported by a plug-in of dedicated library VI-DAQ.
Using the dedicated library VI-DAQ makes it possible to create each application for LabVIEW.

Specifications

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)	121.69(L) x 105.68(H) *3
	Connector	
	CN1	96 pin half pitch connector [M (male) 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
	Standard	VCCI Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA

*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).
*3 Board No.7388, for the board of the 7388A is the 176.41 (L) × 106.68 (H).

Board Dimensions



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

[mm]

PLUG-IN Electronic GmbH • Am Sonnenlicht 5 • 82239 Alling • Tel.: +49 (0) 8141 3697-0 • info@plug-in.de • www.plug-in.de

Support Software

Windows version of digital I/O driver API-DIO(WDM)
The API-DIO(WDM) 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.

For more details on the supported OS, applicable language and how to download the updated version, please visit the CONTEC's Web site.

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

For more details on the supported OS, applicable language and how to download the updated version, please visit the CONTEC's Web site.

Data acquisition VI library for LabVIEW VI-DAQ
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.

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)

Accessories

Accessories (Option)

Screw Terminal	: EPD-96A *1*2
Screw Terminal	: EPD-96 *1
Digital I/O 64CH Series Terminal Panel	: DTP-64A *1

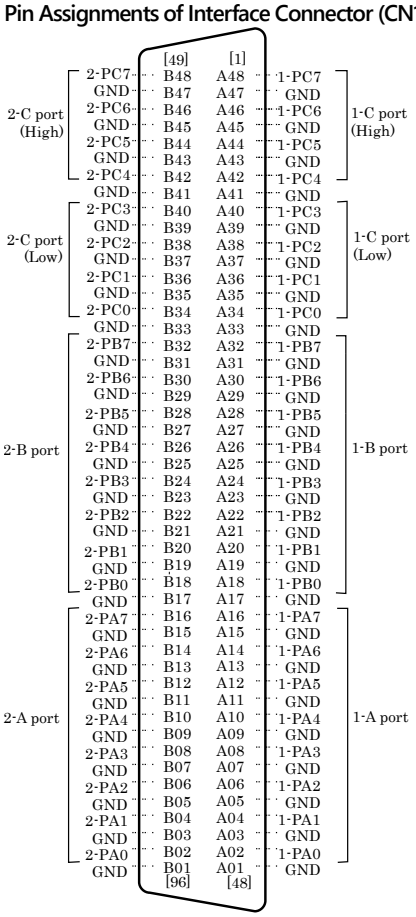
*1 A PCB96P or PCB96PS optional cable is required separately.
*2 "Spring-up" type terminal is used to prevent terminal screws from falling off.
* Check the CONTEC's Web site for more information on these options.

Packing List

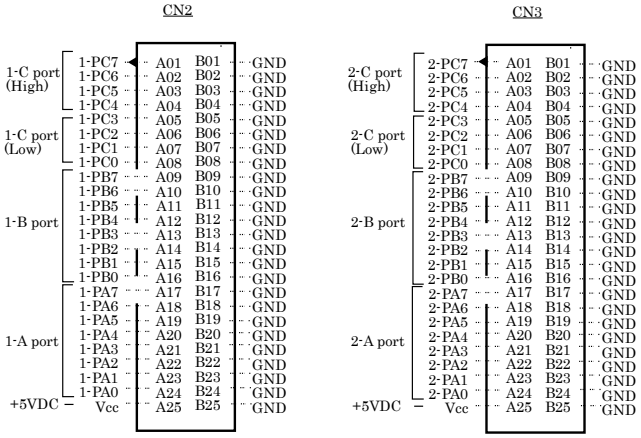
Board [DIO-48D2-PCI] ...1
Setup guide ... 1
Product Registration Card & Warranty Certificate ...1
Serial number label ...1

Connector Pin Assignment

Pin Assignments of Interface Connector (CN1)



Pin Assignments of Interface Connector (CN2, CN3)



Differences between DIO-48D2-PCI and PIO-48D(PCI)

The DIO-48D2-PCI is connector-pin compatible with the conventional PIO-48D(PCI) but has the following differences from it:

	PIO-48D(PCI)	DIO-48D2-PCI Board No.: 7388, 7388A	DIO-48D2-PCI Board No.: 7388B or later
Digital filter function	None	Have	
Selecting the Interrupt Edge	None	Have	
Dimension (mm)	176.41(L) x 106.68(H)		121.69(L) x 105.68(H)

PLUG-IN Electronic GmbH • Am Sonnenlicht 5 • 82239 Alling • Tel.: +49 (0) 8141 3697-0 • info@plug-in.de • www.plug-in.de