

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

Non-isolated Digital I/O board
for PCI Express Low profile

DIO-1616T-LPE



This product is a PCI Express bus-compliant interface board for input/output of unisolated TTL-level digital signals.
This product can input and output up to 16 channels. You can use all of the input signals as interrupt inputs.
This product supports a Low Profile size slot and, if replaced with the supplied bracket, supports a standard size slot, too.
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++.

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

Features

Unisolated TTL-level input x 16 channels,
Unisolated open collector output x 16 channels

Unisolated TTL-level (positive logic) input/output enabling fast response (within 200nsec)

You can use all of the input signals as interrupt inputs.
You can also disable or enable the interrupt in bit units and select the interrupt edge.

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

The rated output signal is up to 30VDC, 40mA per one signal.

Support for both of low-profile and standard size slots (interchangeable with a bundled bracket)

Equipped with the same function as the PCI board PIO-16/16T(LPCI)H

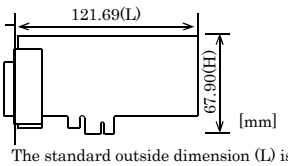
The connector shape and the signal assignment for the connector is compatible with the PIO-16/16T(LPCI)H.

Specification

Item		Specification
Input		
Input format		TTL-level input (Negative logic *1)
Number of input signal channels		16 channels (all available for interrupts) (1 common)
Input resistance		10kΩ□(1 TTL load)
Interrupt		16 interrupt input signals are arranged into a single output of interrupt signal INTA. An interrupt is generated at the rising edge (HIGH-to-LOW transition) or falling edge (LOW-to-HIGH transition).
Response time		Within 200nsec
Output		
Output format		Open-collector output (Negative logic *1)
Number of output signal channels		16 channels (1 common)
Output rating	Output voltage	30VDC (Max.)
	Output current	40mA (par channel) (Max.)
Response time		200nsec within (Variable with pull-up resistance)
Common		
Built-in power		None
Allowable distance of signal extension		Approx. 1.5m (depending on wiring environment)
I/O address		Any 32-byte boundary
Interruption level		1 level use
Max. board count for connection		16 boards including the master board
Power consumption (Max.)		3.3VDC 350mA
Operating condition		0 - 50°C, 10 - 90%RH (No condensation)
Bus specification		PCI Express Base Specification Rev. 1.0a x1
Dimension (mm)		121.69(L) × 67.90(H)
Connector		50-Pin Mini-Ribbon connector 10250-52A2JL[mfd.by 3M]
Weight		60g
Certification		RoHS,CE,VCCI

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

Board Dimensions



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

Support Software

Driver Library API-PAC(W32) (Bundled)

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++.
It can also be used by the installed diagnosis program to check hardware operations.
CONTEC provides download services (at http://www.contec.com/apipac/) to supply the updated drivers and differential files.
For details, read Help on the bundled Disk or visit the CONTEC's Web site.

Linux version of digital I/O driver API-DIO(LNX) (Supplied: Stored on the API-PAC(W32) CD-ROM)

This driver is used to control CONTEC digital I/O boards (cards) from within Linux.
You can control CONTEC I/O boards easily using the shared library called from the user application, the device driver (module) for kernel version, and the board (card) configuration program (config).
CONTEC provides download services (at http://www.contec.com/apipac/) to supply the updated drivers and differential files.
For details, read Help on the bundled Disk or 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 Two 50-Pin Mini-Ribbon Connector
: PCB50PS-0.5P(0.5m)
: PCB50PS-1.5P(1.5m)

Shield Cable with One 50-Pin Mini-Ribbon Connector
: PCA50PS-0.5P(0.5m)
: PCA50PS-1.5P(1.5m)

Connection Conversion 0.5m Shield Cable
(50-Pin Ribbon→37-Pin D-SUB) : PCE50/37PS-0.5P(0.5m)

Accessories

Accessories (Option)

Screw Terminal Unit(M3 terminal block, 50 points)
: EPD-50A *1
Screw Terminal Unit(M3 terminal block, 37 points)
: EPD-37A *2
Screw Terminal Unit(M3.5 terminal block, 37 points)
: EPD-37 *2
General Purpose Terminal : DTP-3A *3
Termination Panel (M3) : DTP-3(PC) *3
Screw Terminal : DTP-4A *3
Termination Panel : DTP-4(PC) *3
Signal Monitor for Digital I/O : CM-32L *2

*1 PCB50PS-*P optional cable is required separately.
*2 PCE50/37PS-0.5P and PCB37P or PCB37PS optional cable is required separately.
*3 PCE50/37PS-0.5P optional cable is required separately.

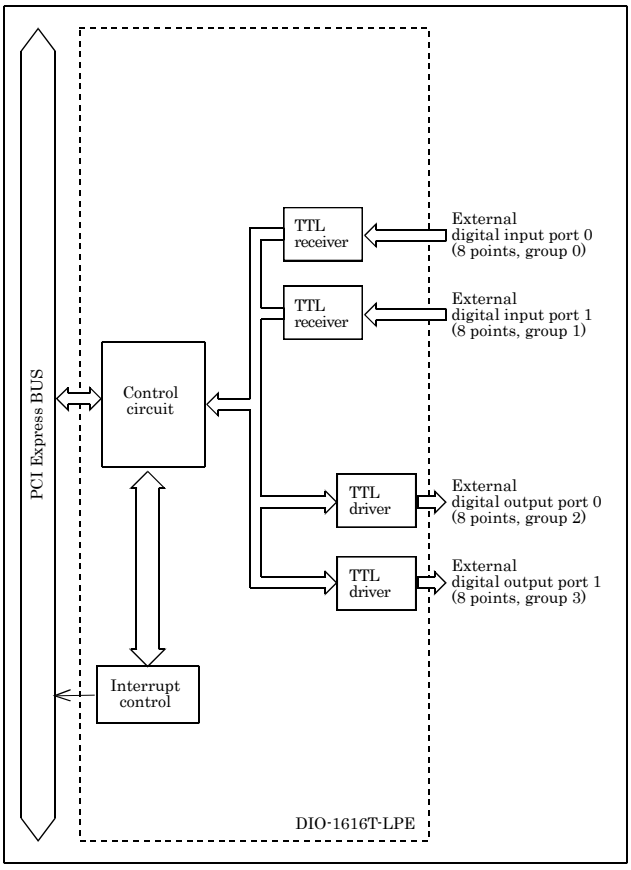
* Check the CONTEC's Web site for more information on these options.

Packing List

Board [DIO-1616T-LPE]…1
First step guide… 1
Disk *1 [API-PAC(W32)]…1
Standard-sized bracket…1
Product Registration Card & Warranty Certificate …1
Serial number label …1

*1 The Disk contains the driver software and User's Guide.

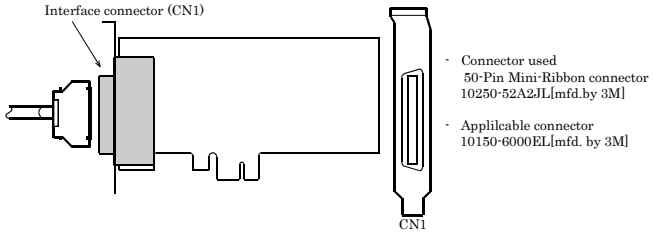
Block Diagram



How to connect the connectors

Connector shape

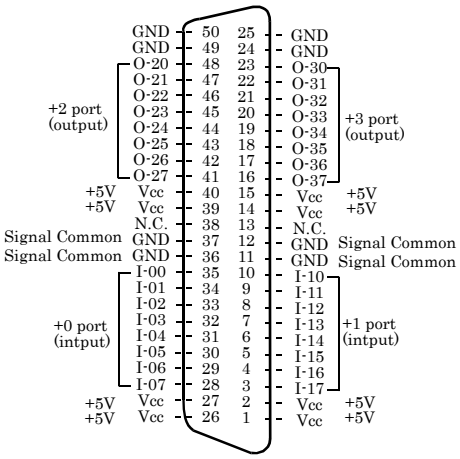
The on-board interface connector (CN1) is used when connecting this product and the external devices.



* Please refer to page 2 for more information on the supported cable and accessories.

Connector Pin Assignment

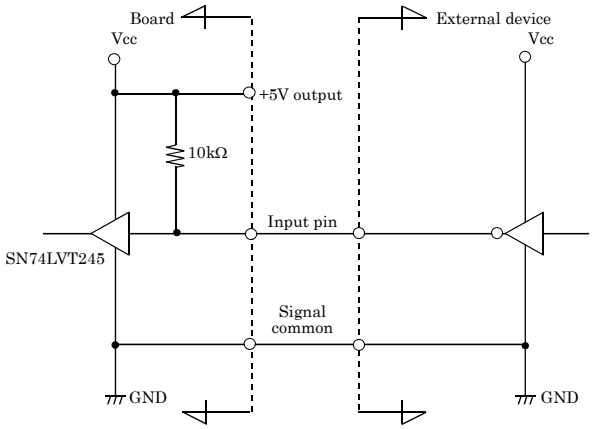
Pin Assignments of Interface Connector (CN1)



I-00 - I-17	16 input signal pins. Connect output signals from the external device to these pins.
O20 - O37	16 output signal pins. Connect these pins to the input signal pins of the external device.
Vcc	This pin outputs power at +5 V.
GND	This pin is connected to the slot's GND.
N.C.	This pin is left unconnected.

Connecting Input Signals

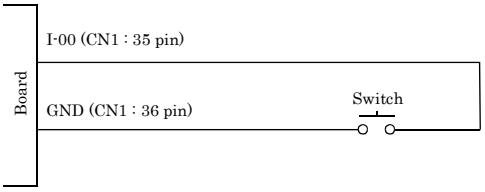
Input Circuit



* Input pin represent input signals.

The input circuit of interface is illustrated in the image above. External digital signals given to signal inputs are TTL levels. The individual input signals are passed to the personal computer as active low signals. As each of the signal inputs is pulled up internally, the output of a relay contact or semiconductor switch can be connected directly between the signal input and the signal common pin.

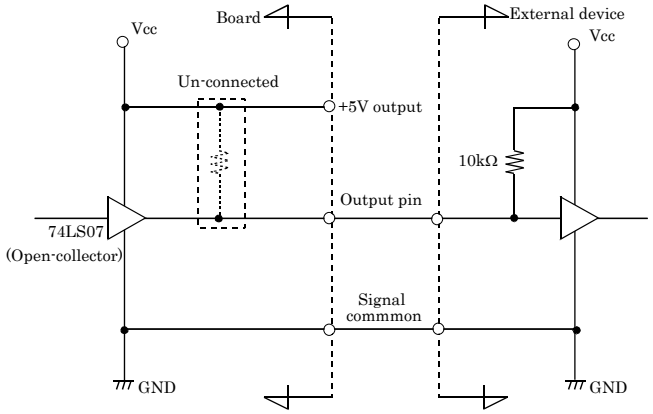
Connecting a Switch



When the switch is ON, the corresponding bit contains 1.
When the switch is OFF, by contrast, the bit contains 0.

Connecting Output Signals

Output Circuit

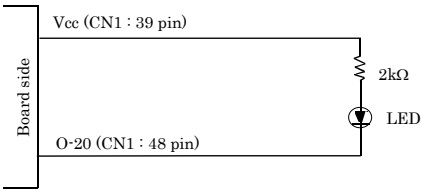


* Output pin represent output signals.

The output circuit of interface is illustrated in the image above. Signal outputs are open-collector outputs; individual output signals are sent to the external device as active low signals. Note that each signal output must be pulled up at the external device as it is not pulled up internally.

⚠ CAUTION
When the PC is turned on, all output are reset to OFF.

Connection to the LED



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.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP