Digital Input Board with Opto-Isolation

DI-64L-PE



This product is a PCI Express bus-compliant interface board that extends the digital signal I/O functions of a PC.

DI-64L-PE is a 12 - 24VDC opto-coupler isolated type with input 64ch. You can use 32ch of the input signals as interrupt inputs. In addition, digital filter function to prevent wrong recognition of input signals is provided.

Windows/Linux driver is bundled with this product.

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

Features

Opto-coupler isolated input (supporting current sink output) and opto-coupler isolated open-collector output (current sink type)
DI-64L-PE has the opto-coupler isolated input 64ch (supporting current sink output) whose response speed is 200µsec.
Common terminal provided per 16ch, capable of supporting a different external power supply Supporting driver voltages of 12 - 24 VDC for I/O.

Opto-coupler bus isolation
As the PCI Express bus (PC) is isolated from the input and output interfaces by opto-couplers, this product has excellent noise performance.

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

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.

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

Functions and connectors are compatible with PCI compatible board PIO-32/32L(PCI)H series.
DI-64L-PE : The functions same with PCI compatible board PI-64L(PCI)H are provided.
In addition, as there is compatibility in terms of connector shape and pin assignments, it is easy to migrate from the existing system.

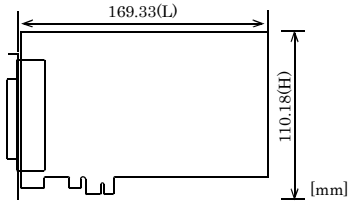
LabVIEW is supported by a plug-in of dedicated library.
Using the dedicated library makes it possible to make a LabVIEW application.

Specification

Item		Specification
Input		
	Input format	Opto-coupler isolated input (Compatible with current sink output) (Negative logic *1)
	Number of input signal channels	64ch (32ch available for interrupts) (1 common in 16ch)
	Input resistance	4.7kΩ
	Input ON current	2.0mA or more
	Input OFF current	0.16mA or less
	Interrupt	32 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 200µsec
Common		
	I/O address	Any 32-byte boundary
	Interruption level	1 level use
	Max. board count for connection	16 boards including the master board
	Isolated Power	5000Vrms
	External circuit power supply	12 - 24VDC(±10%)
	Power consumption	3.3VDC 350mA (Max)
	Operating condition	0 - 50°C, 10 - 90%RH (No condensation)
	Allowable distance of signal extension	Approx. 50m (depending on wiring environment)
	Bus specification	PCI Express Base Specification Rev. 1.0a x1
	Dimension (mm)	169.33(L) x 110.18(H)
	Connector	96 pin half pitch connector [M (male) type] PCR-E96LMD+[HONDA TSUSHIN KOGYO CO., LTD.] equivalent to it
	Weight	215g
	Standard	VCCI Class A, CE Marking (EMC Directive Class A, RoHS Directive)

*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 & Service

Windows version of digital I/O driver API-DIO(WDM)/API-DIO(98/PC) [Stored on the bundled disk driver library API-PAC(W32)]
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 *1useful 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 (http://www.contec.com/apipac/).

Linux version of digital I/O driver API-DIO(LNX) [Stored on the bundled disk 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.

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

LabVIEW-support data acquisition library DAQfast for LabVIEW (Available for downloading (free of charge) from the CONTEC web site.)
This is a data collection library to use in the LabVIEW by National Instruments. With Polymorphic VI, our design enables a LabVIEW user to operate seamlessly. Our aim is that the customers to perform easily, promptly what they wish to do.
See https://www.contec.com/products/daq_util/daqfast.php for details and download of DAQfast for LabVIEW.

Data acquisition 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 (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)
: PCB96P-3 (3m)

Shield Cable with 96-Pin Half-Pitch Connectors at One End
: PCA96PS-0.5P (0.5m)
: PCA96PS-1.5P (1.5m)
: PCA96PS-3P (3m)
Flat Cable with 96-Pin Half-Pitch Connectors at One End
: PCA96P-1.5 (1.5m)
: PCA96P-3 (3m)

Distribution shield cable with 96-Pin Half-Pitch Connectors (96P→37P x 2)
: PCB96WS-1.5P (1.5m)
: PCB96WS-3P (3m)

* Information about the option products, see the Contec's website.

Accessories (Option)

Screw Terminal	EPD-96A *1*2
Screw Terminal	EPD-96 *1
Digital I/O 64CH Series Terminal Panel (M3 x 96P)	DTP-64A *1
Signal Monitor for Digital I/O(64Bits)	CM-64L *1
Screw Terminal (M3 x 37P)	EPD-37A *3
Screw Terminal (M3.5 x 37P)	EPD-37 *3
General Purpose Terminal (M3 x 37P)	DTP-3C *3
Screw Terminal (M2.5 x 37P)	DTP-4C *3
Signal Monitor for Digital I/O	CM-32L *3
Connection Conversion Board (96-Pin → 37-Pin x 2)	CCB-96 *4

*1 A PCB96P or PCB96PS optional cable is required separately.
*2 "Spring-up" type terminal is used to prevent terminal screws from falling off.
*3 A PCB96WS optional cable is required separately.
*4 Option cable PCB96P or PCB96PS, and the cable for 37-pin D-SUB are required separately.
* Check the CONTEC's Web site for more information on these options.

Packing List

Board [DI-64L-PE]...1
First step guide ... 1
Disk *1 [API-PAC(W32)] ...1
Warranty Certificate ...1
Serial Number Lable...1

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