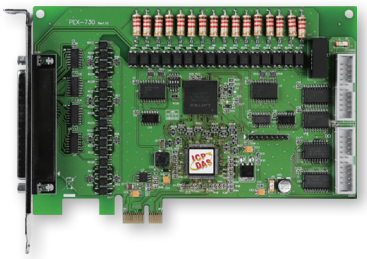
PEX-730 NEW

PCI Express, 32-channel Isolated Digital Input/Output and 32-channel TTL Digital Input/Output (Sink, NPN) Board



Features

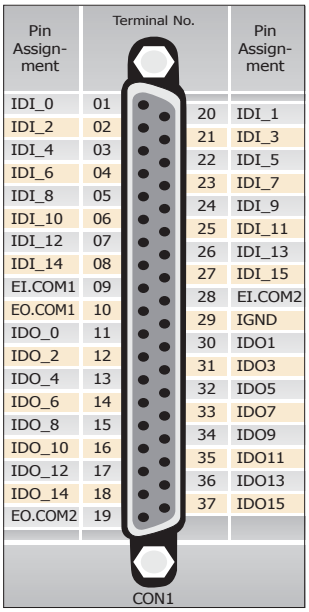
- PCI Express x1 Interface
- 16-channel Optically-isolated Digital Input
- 16-channel Optically-isolated Digital Output (Sink, NPN)
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
- Supports Card ID (SMD Switch)
- 3750 V_{rms} Photo-isolation Protection
- Internal Power (3000 V_{DC} isolation) for Dry-contact Input
- Supports Output Status Readback
- Two Interrupt Sources

Introduction

PEX-730 cards provide 32 isolated digital I/O channels (16 x DI and 16 x DO) and 32 TTL-level digital I/O channels (16 x DI and 16 x DO). Both the isolated DI and DO channels use a short optical transmission path to transfer an electronic signal between the elements of a circuit and keep them electrically isolated. With 3750 V_{rms} isolation protection, these DI/O channels allow the input signals to be completely floated so as to prevent ground loops and isolate the host computer from damaging voltages. Each digital output offers a Darlington (NPN) transistor and integrated suppression diode for the inductive load. The open collector outputs (DO channels) are typically used for alarm and warning notification, signal output control, control for external circuits that require a higher voltage level, and signal transmission applications, etc.

The PEX-730 also adds a Card ID switch. Users can set Card ID on a board and recognize the board by the ID via software when using two or more cards in one computer. The PEX-730 is designed as easy replacement for the PISO-730U without any software/driver modification.

Pin Assignments



Pin Assignment	Terminal No.		Pin Assignment
IDI_0	01		
IDI_2	02		
IDI_4	03		
IDI_6	04		
IDI_8	05		
IDI_10	06		
IDI_12	07		
IDI_14	08		
EI.COM1	09		
EO.COM1	10		
IDO_0	11		
IDO_2	12		
IDO_4	13		
IDO_6	14		
IDO_8	15		
IDO_10	16		
IDO_12	17		
IDO_14	18		
EO.COM2	19		
		20	IDI_1
		21	IDI_3
		22	IDI_5
		23	IDI_7
		24	IDI_9
		25	IDI_11
		26	IDI_13
		27	IDI_15
		28	EI.COM2
		29	IGND
		30	IDO1
		31	IDO3
		32	IDO5
		33	IDO7
		34	IDO9
		35	IDO11
		36	IDO13
		37	IDO15

CON1

Pin Assignment	Terminal No.		Pin Assignment
DI 0	01	02	DI 1
DI 2	03	04	DI 3
DI 4	05	06	DI 5
DI 6	07	08	DI 7
DI 8	09	10	DI 9
DI 10	11	12	DI 11
DI 12	13	14	DI 13
DI 14	15	16	DI 15
GND	17	18	GND
+5 V	19	20	+12 V

CON2

Pin Assignment	Terminal No.		Pin Assignment
DO 0	01	02	DO 1
DO 2	03	04	DO 3
DO 4	05	06	DO 5
DO 6	07	08	DO 7
DO 8	09	10	DO 9
DO 10	10	12	DO 11
DO 12	12	14	DO 13
DO 14	14	16	DO 15
GND	16	18	GND
+5 V	18	20	+12 V

CON3

Ordering Information

PEX-730 CR	PCI Express, 32-channel Isolated Digital Input/Output and 32-channel TTL Digital Input/Output Board. (Current Sinking, RoHS). Includes one CA-4002 D-sub Connector.

Software

Drivers

- ✓ 32/64-bit Windows XP/2003/2008/Vista/7/8
- ✓ Linux

Sample Programs

- ✓ DOS Lib and TC/BC/MSC Demo
- ✓ LabVIEW Toolkit
- ✓ VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo

Hardware Specifications

Isolated Digital Input		
Channels	16	
Compatibility	Optical	
Isolation Voltage	3750 V_{rms}	
Input Voltage	Logic 0: 0 ~ +1 V Logic 1: +9 ~ +24 V	Logic 0: 0 ~ +1 V Logic 1: +5 ~ +12 V
Input Impedance	1.2 KΩ, 1 W	
Response Speed	4 kHz (Typical)	
Isolated Digital Output		
Channels	16	
Compatibility	Sink (NPN), Open-collector	
Isolation Voltage	3750 V_{rms}	
Output Capability	100 mA/+30 V for each channel @ 100% duty	
Response Speed	4 kHz (Typical)	
Non-isolated Digital Input		
Channels	16	
Compatibility	5 V/TTL	
Input Voltage	Logic 0: 0.8 V Max., Logic 1: 2.0 V Min.	
Response Speed	500 kHz	
Non-isolated Digital Output		
Channels	16	
Compatibility	5 V/TTL	
Output Voltage	Logic 0: 0.4 V Max., Logic 1: 2.4 V Min.	
Output Capability	Sink: 2.4 mA @ 0.8 V, Source: 0.8 mA @ 2.0 V	
Response Speed	500 kHz	
General		
Bus Type	PCI Express x1	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1, 20-pin Box Header x 2	
Power Consumption	600 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	