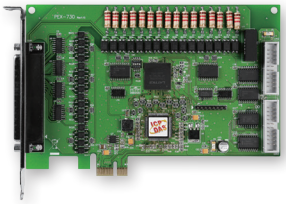
PEX-730/PEX-730A NEW

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

PEX-730



PEX-730A

Features

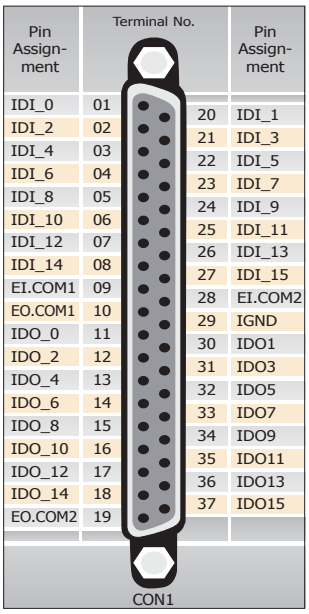
- PCI Express x1 Interface
- 16-channel Optically-isolated Digital Input
- 16-channel Optically-isolated Digital Output
  - PEX-730: Current Sinking (NPN)
  - PEX-730A: Current Sourcing (PNP)
- Supports Output Status Readback
- Supports Card ID (SMD Switch)
- 3750 V_{rms} Photo-isolation Protection
- Internal Power (3000 V_{DC} isolation) for Dry-contact Input
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
- Two Interrupt Sources

Introduction

PEX-730/730A 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 (Current Sinking for PEX-730) or PNP (Current Sourcing for PEX-730A) 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.

These cards 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-730/730A is designed as easy replacement for the PISO-730U/PISO-730A without any software/driver modification.

Pin Assignments



Pin Assignment	Terminal No.		Pin Assignment
IDI_0	01		
IDI_2	02	20	IDI_1
IDI_4	03	21	IDI_3
IDI_6	04	22	IDI_5
IDI_8	05	23	IDI_7
IDI_10	06	24	IDI_9
IDI_12	07	25	IDI_11
IDI_14	08	26	IDI_13
EI.COM1	09	27	IDI_15
EO.COM1	10	28	EI.COM2
IDO_0	11	29	IGND
IDO_2	12	30	IDO1
IDO_4	13	31	IDO3
IDO_6	14	32	IDO5
IDO_8	15	33	IDO7
IDO_10	16	34	IDO9
IDO_12	17	35	IDO11
IDO_14	18	36	IDO13
EO.COM2	19	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 Art. No. 142789	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.
PEX-730A CR Art. No. 153116	PCI Express, 32-channel Isolated Digital Input/Output and 32-channel TTL Digital Input/Output Board. (Current Sourcing, RoHS). Includes one CA-4002 D-sub Connector.

Software

Drivers

- ✓ 32/64-bit Windows XP/2003/2008/7/8/10
- ✓ 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

Model	PEX-730	PEX-730A
Isolated Digital Input		
Channels	16	
Compatibility	Optical	
Isolation Voltage	3750 V_{rms}	
Input Voltage	Logic 0: 0 ~ +1 V, Logic 1: +9 ~ +24 V	
Input Impedance	1.2 KΩ, 1 W	
Response Speed	4 kHz (Typical)	
Isolated Digital Output		
Channels	16	
Compatibility	Sink (NPN), Open Collector	Source (PNP), 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	