

PISO-730U/PISO-730U-5V

Universal PCI, 32-channel Isolated Digital I/O and 32-channel TTL Digital I/O Board (Sink, NPN)



- Universal PCI (3.3 V/5 V) 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
 - Built-in DC/DC Converter with 3000 V_{DC} Isolation
 - 3750 V_{rms} Photo-isolation Protection
 - Supports Card ID (SMD Switch)
 - Supports DO Status Readback (Register Level)
 - 2 Interrupt Sources



Introduction

The PISO-730U/730U-5V 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 Digital Input and the Digital Output 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_{ms} isolation protection, the DI/O channels allow the input signals to be completely floated so as to prevent ground loops and isolate the host computer from potentially damaging voltage spikes.

Each Digital Output includes a Darlington (NPN) transistor and an integrated suppression diode for the inductive load. The open-collector Digital Output channels are typically used for alarm and warning notifications, signal output control, control for external circuits that require a higher voltage level, or signal transmission applications, etc.

The PISO-730U/730U-5V cards also include an onboard Card ID switch that enables the board to be recognized via software if two or more boards are installed in the same computer.



Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
IDI_0	01			DI 0	01
IDI_2	02	20	IDI_1	O	O
IDI_4	03	21	IDI_3	03	04
IDI_6	04	22	IDI_5	05	06
IDI_8	05	23	IDI_7	07	08
IDI_10	06	24	IDI_9	09	10
IDI_12	07	25	IDI_11	11	12
IDI_14	08	26	IDI_13	13	14
EI.COM1	09	27	IDI_15	15	16
EO.COM1	10	28	EI.COM2	GND	17
IDO_0	11	29	IGND	+5 V	18
IDO_2	12	30	IDO1		20
IDO_4	13	31	IDO3		+12 V
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		
					CON2
Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	O	O	02	DO 1
DO 2	03	O	O	04	DO 3
DO 4	05	O	O	06	DO 5
DO 6	07	O	O	08	DO 7
DO 8	09	O	O	10	DO 9
DO 10	10	O	O	12	DO 11
DO 12	12	O	O	14	DO 13
DO 14	14	O	O	16	DO 15
GND	16	O	O	18	GND
+5 V	18	O	O	20	+12 V
					CON3



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

Model	PISO-730U	PISO-730U-5V
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	1.2 MHz (Typical)	
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	1.2 MHz (Typical)	
General		
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
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	



Ordering Information

PISO-730U CR	Universal PCI, 32-channel Isolated Digital I/O and 32-channel TTL Digital I/O Board (Sink, RoHS). Includes one CA-4002 D-sub Connector.
PISO-730U-5V CR	Universal PCI, PCI, 32-channel Isolated Digital I/O (Input Logic High: +5 ~ +12 V) and 32-channel TTL Digital I/O Board (Sink, RoHS). Includes one CA-4002 D-sub Connector.