



## PISO-730AU/PISO-730AU-5V

Universal PCI, 32-ch Isolated Digital I/O and 32-ch Digital I/O Board (Current Sourcing, PNP)

### Introduction

The PISO-730AU/730AU-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<sub>rms</sub> 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 PNP transistor and an integral 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.

### Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
IDI_0	01	20 IDI_1	DI 0	01	02 DI 1
IDI_2	02	21 IDI_3	DI 2	03	04 DI 3
IDI_4	03	22 IDI_5	DI 4	05	06 DI 5
IDI_6	04	23 IDI_7	DI 6	07	08 DI 7
IDI_8	05	24 IDI_9	DI 8	09	10 DI 9
IDI_10	06	25 IDI_11	DI 10	11	12 DI 11
IDI_12	07	26 IDI_13	DI 12	13	14 DI 13
IDI_14	08	27 IDI_15	DI 14	15	16 DI 15
EI.COM1	09		GND	17	18 GND
EPWR1	10		+5 V	19	20 +12 V
IDO_0	11	28 EI.COM2			
IDO_2	12	29 IGND			
IDO_4	13	30 IDO1	Pin Assignment	Terminal No.	Pin Assignment
IDO_6	14	31 IDO3	DO 0	01	02 DO 1
IDO_8	15	32 IDO5	DO 2	03	04 DO 3
IDO_10	16	33 IDO7	DO 4	05	06 DO 5
IDO_12	17	34 IDO9	DO 6	07	08 DO 7
IDO_14	18	35 IDO11	DO 8	09	10 DO 9
EPWR2	19	36 IDO13	DO 10	10	12 DO 11
		37 IDO15	DO 12	12	14 DO 13
			DO 14	14	16 DO 15
			GND	16	18 GND
			+5 V	18	20 +12 V

### Features

- Support the +3.3/+5 V PCI bus
- 16-channel Optically-isolated Digital Input
- 16-channel Optically-isolated Digital Output (Source, PNP)
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
- 3750 V<sub>rms</sub> Photo-isolation Protection
- 2 Interrupt Sources
- Supports Card ID (SMD Switch)
- Output status readback function



### Hardware Specifications

Model	PISO-730AU	PISO-730AU-5V
<b>Hardware</b>		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1 20-pin box header x 2	
<b>Digital Input</b>		
Channels	16 (Isolated) + 16 (Non-isolated)	
Type	Isolated: Photocoupler (Sink and Source) Non-isolated: 5V/TTL	
TTL Input, ON Voltage Level	2.0 V Min.	
TTL Input, OFF Voltage Level	0.8 V Max.	
Response Speed	4 kHz (Typical) (Isolated) 1.0 MHz (Typical) (Non-isolate)	
Trigger Mode	Static Update	
Wet Contact, ON Voltage Level	9 ~ 24 V (Min. 7 V; Max. 30 V)	5 ~ 12 V (Min. 3.5 V; Max. 16 V)
Wet Contact, OFF Voltage Level	0 ~ 1 V	
Isolation	3750 Vrms (Isolated)	
<b>Digital Output</b>		
Channels	16 (Isolated) + 16 (Non-isolated)	
Type	Isolated:Source (PNP), Open Emitter Non-isolated: 5V/TTL	
Operation Mode	Static Update	
Voltage	Non-isolated: Logic 0: 0.4 V max. Logic 1: 2.4 V min.	
Max. Load Current	100 mA/+30 V for each channel @ 100% duty (Isolated) Sink: 2.4 mA @ 0.8 V (Non-isolated) Source: 0.8 mA @ 2.0 V (Non-isolated)	
Response Speed	4 kHz (Typical) (Isolated) 1.2 MHz (Typical) (Non-isolate)	
Isolation	3750 Vrms (Isolated)	
<b>PC Bus</b>		
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Data Bus	8-bit	
<b>Power</b>		
Consumption	640 mA @ +5 V	
<b>Mechanical</b>		
Dimensions (mm)	105.06 x 163.68 x 22 (W x L x D)	
<b>Environmental</b>		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

## Software

### Drivers

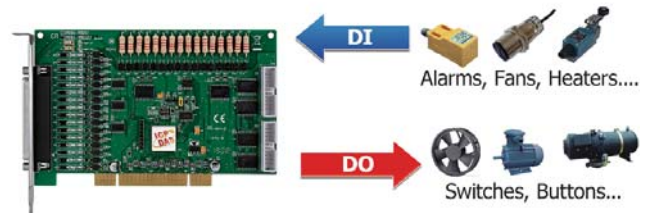
- 32/64-bit Windows XP/2003/2008/7/8/10
- Linux  DASYLab

### Simple Programs

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

## Applications

- Product Test
- Factory Automation
- Laboratory Automation



## Ordering Information

<b>PISO-730AU CR</b>	Universal PCI, 32-ch Isolated Digital I/O and 32-ch Digital I/O Board (Current Sourcing, PNP) (RoHS) Includes one CA-4002 D-Sub connector
<b>PISO-730AU-5V CR</b>	Universal PCI, 32-ch Isolated Digital I/O and 32-ch Digital I/O Board (Current Sourcing, PNP) (RoHS) Includes one CA-4002 D-Sub connector

## Accessories

	CA-2002	20-pin flat cable, 20cm x 2		CA-4002	37-pin Male D-sub connector with plastic cover
	CA-2010	20-pin flat cable, 1M		DB-16P	16-channel Isolated Digital Input Daughter Board
	CA-2020	20-pin flat cable, 2M		DB-16R	16-channel Relay Output Daughter Board
	CA-3710	DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (45°))		DN-37	37-pin Din-Rail Mounting I/O Connector Board
	CA-3710D	DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (180°))		DB-37	Directly connect signal to D-sub 37-pin connector
	CA-3715DM-H	DB-37 Male-Male Cable, 1.5M, 180° (RoHS)		DN-20	20-pin Din-Rail Mounting I/O Connector Board
	CA-3730DM-H	DB-37 Male-Male Cable, 3M, 180° (RoHS)		DN-20/N	DN-20 without DIN-Rail Mount
	CA-3750DM-H	DB-37 Male-Male Cable, 5 M, 180° (RoHS)		ADP-20/PCI	20-pin extender

