

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

Universal PCI, 32-channel Isolated Digital I/O and 32-channel TTL Digital I/O Board (Source, 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
IDI_0	01	20 IDI_1
IDI_2	02	21 IDI_3
IDI_4	03	22 IDI_5
IDI_6	04	23 IDI_7
IDI_8	05	24 IDI_9
IDI_10	06	25 IDI_11
IDI_12	07	26 IDI_13
IDI_14	08	27 IDI_15
EL.COM1	09	28 EL.COM2
EPWR1	10	29 IGND
IDO_0	11	30 IDO1
IDO_2	12	31 IDO3
IDO_4	13	32 IDO5
IDO_6	14	33 IDO7
IDO_8	15	34 IDO9
IDO_10	16	35 IDO11
IDO_12	17	36 IDO13
IDO_14	18	37 IDO15
EPWR2	19	

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

### Features

- Support the +3.3/+5 V PCI bus
- 16-channel Optically-isolated Digital Input
- 16-channel Optically-isolated Digital Output (Source, NPN)
- 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>Isolated Digital Input</b>		
Channels	16	
Compatibility	Optical	
Isolation Voltage	3750 V <sub>rms</sub>	
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)	
<b>Isolated Digital Output</b>		
Channels	16	
Compatibility	Source (PNP), Open-collector	
Isolation Voltage	3750 V <sub>rms</sub>	
Output Capability	100 mA/+30 V for each channel @ 100% duty	
Response Speed	4 kHz (Typical)	
<b>Non-isolated Digital Input</b>		
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)	
<b>Non-isolated Digital Output</b>		
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)	
<b>General</b>		
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	
PCB Dimensions	163.68 mm x 105.06 mm (L x H)	
Power Consumption	640 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

## Software

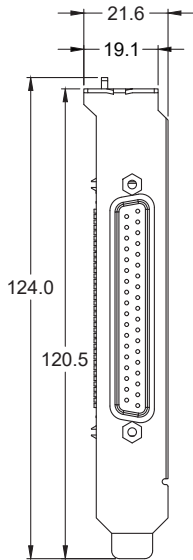
### Drivers

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

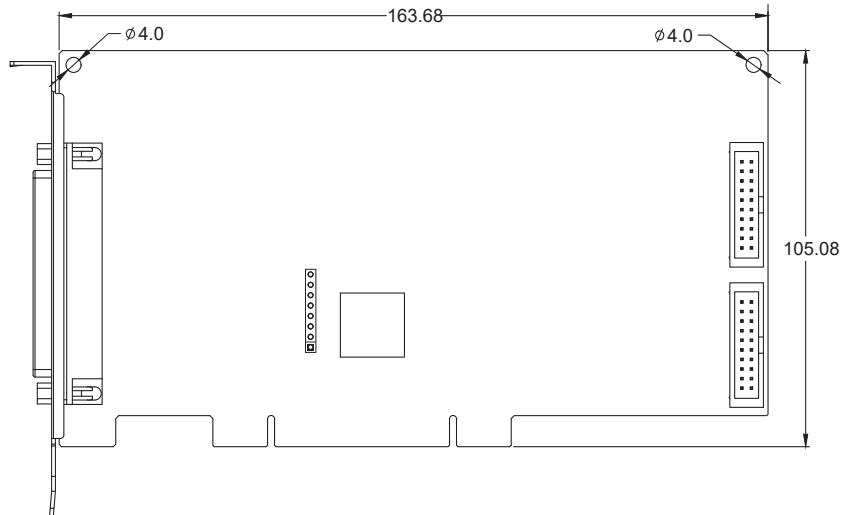
### Simple Programs

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

## Dimensions (Units: mm)



Left Side View



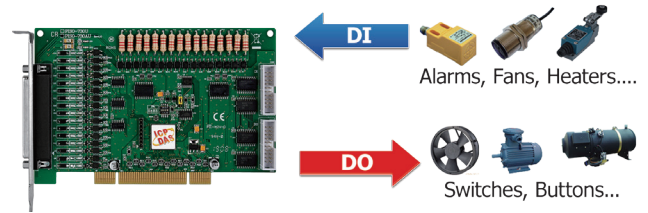
Front View



Bottom View

## Applications

- Product Test
- Factory Automation
- Laboratory Automation



## Ordering Information

<b>PISO-730AU CR</b>	Universal PCI, 32-channel isolated digital I/O and 32-channel TTL Digital I/O board. (Current Sourcing) (RoHS) Includes one CA-4002 D-Sub connector.
<b>PISO-730AU-5V CR</b>	Universal PCI, 32-channel isolated digital I/O (Input Logic High: 5~12 V) and 32-channel TTL Digital I/O board. (Current Sourcing) (RoHS) Includes one CA-4002 D-Sub connector.

## Accessories

	<b>CA-2002</b>	20-pin flat cable, 20cm x 2
	<b>CA-2010</b>	20-pin flat cable, 1M
	<b>CA-2020</b>	20-pin flat cable, 2M
	<b>CA-3710</b>	DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (45°))
	<b>CA-3710D</b>	DB-37 Male-Male D-sub cable 1M (Cable for Daughter Board (180°))
	<b>CA-3715DM-H</b>	DB-37 Male-Male Cable, 1.5M, 180° (RoHS)
	<b>CA-3730DM-H</b>	DB-37 Male-Male Cable, 3M, 180° (RoHS)
	<b>CA-3750DM-H</b>	DB-37 Male-Male Cable, 5 M, 180° (RoHS)

	<b>CA-4002</b>	37-pin Male D-sub connector with plastic cover
	<b>DB-16P</b>	16-channel Isolated Digital Input Daughter Board
	<b>DB-16R</b>	16-channel Relay Output Daughter Board
	<b>DN-37</b>	37-pin Din-Rail Mounting I/O Connector Board
	<b>DB-37</b>	Directly connect signal to D-sub 37-pin connector
	<b>DN-20</b>	20-pin Din-Rail Mounting I/O Connector Board
	<b>DN-20/N</b>	DN-20 without DIN-Rail Mount
	<b>ADP-20/PCI</b>	20-pin extender