



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

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

### 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 Vrms 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.

### Software

#### Drivers

- 32/64-bit Windows 10/11
- Linux  DASYLab

#### Sample Programs

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

### Ordering Information

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

### Features

- 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 VDC Isolation
- 3750 Vrms Photo-isolation Protection
- Supports Card ID (SMD Switch)
- Supports DO Status Readback (Register Level)
- 2 Interrupt Sources



### Hardware Specifications

Model	PISO-730U	PISO-730U-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: Sink (NPN), Open Collector 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 x 180 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	

## Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
IDI_0	01	IDI_1	20	DI 0
IDI_2	02	IDI_3	21	DI 2
IDI_4	03	IDI_5	22	DI 4
IDI_6	04	IDI_7	23	DI 6
IDI_8	05	IDI_9	24	DI 8
IDI_10	06	IDI_11	25	DI 10
IDI_12	07	IDI_13	26	DI 12
IDI_14	08	IDI_15	27	DI 14
EI.COM1	09	EI.COM2	28	DI 15
EPWR1	10	IGND	29	GND
IDO_0	11	IDO1	30	+5 V
IDO_2	12	IDO3	31	CON2
IDO_4	13	IDO5	32	CON3
IDO_6	14	IDO7	33	DO 0
IDO_8	15	IDO9	34	DO 2
IDO_10	16	IDO11	35	DO 4
IDO_12	17	IDO13	36	DO 6
IDO_14	18	IDO15	37	DO 8
EPWR2	19			DO 10
CON1				DO 12
				DO 14
				DO 16
				DO 18
				DO 20
				GND
				+12 V

## Accessories

	CA-2002 CR	20-pin flat cable, 20 cm x 2 (RoHS)
	CA-2010 CR	20-pin flat cable, 1 M (RoHS)
	CA-2020 CR	20-pin flat cable, 2 M (RoHS)
	CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
	CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
	CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180° (RoHS)
	CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180° (RoHS)
	CA-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180° (RoHS)
	CA-3750DM-H CR	DB-37 Male-Male Cable, 5.0 M, 180° (RoHS)
	CA-4002 CR	37-pin Male D-sub connector with plastic cover (RoHS)
	DB-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
	DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)
	DN-20 CR	Two 20-pin header DIN-rail terminal board (RoHS)
	DN-20/N CR	DN-20 without DIN-Rail mount (RoHS)
	DB-16P CR	Isolated Digital Input Daughter Board (RoHS)
	DB-16R CR	Relay Output Daughter Board (RoHS)
	ADP-20/PCI CR	20-pin extender (RoHS)

