



## PISO-P16R16U

Universal PCI, 16-ch Isolated Digital Input,  
16-ch Relay Output Board

### Introduction

The PISO-P16R16U is a Universal PCI card supporting both the 3.3 V and 5 V PCI bus, and contains 16 photocoupler Digital Input channels that provide 3750 Vrms isolation protection, allowing the input signals to be completely floated so as to prevent ground loops and isolate the host computer from potentially damaging voltage spikes. The cards are also equipped with 16 Relay Output channels to enable the control of the ON/OFF state of external devices, drive external relays or small power switches, or activate alarms, etc.

The PISO-P16R16U card is fully compatible with the PISO-P16R16 card, and is designed as a direct replacement without requiring any modification to the software or the driver.

### Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
NO_0	01	20 NO_3	NO_8	01	NO_11
COM_0	02	21 COM_3	COM_8	03	COM_11
NC_0	03	22 NC_3	NC_8	05	NC_11
NO_1	04	23 NO_4	NO_9	07	NO_12
COM_1	05	24 COM_4	COM_9	09	COM_12
NC_1	06	25 NO_5	NC_9	11	NO_13
NO_2	07	26 COM_5	NO_10	13	COM_13
COM_2	08	27 NO_6	COM_10	15	NO_14
NC_2	09	28 COM_6	NC_10	17	COM_14
NO_7	10	29 GND	NO_15	19	NO_20
COM_7	11	30 DIB_0	COM_15	21	DIB_8
DIA_0	12	31 DIB_1	DIA_8	23	DIB_9
DIA_1	13	32 DIB_2	DIA_9	25	DIB_10
DIA_2	14	33 DIB_3	DIA_10	27	DIB_11
DIA_3	15	34 DIB_4	DIA_11	29	DIB_12
DIA_4	16	35 DIB_5	DIA_12	31	DIB_13
DIA_5	17	36 DIB_6	DIA_13	33	DIB_14
DIA_6	18	37 DIB_7	DIA_14	35	DIB_15
DIA_7	19		DIA_15	37	N/A
			N/A	39	N/A
					CON2

### Ordering Information

<b>PISO-P16R16U</b>	Universal PCI, 16-ch Isolated Digital Input, 16-ch Relay Output Board Includes one CA-4037W cable and two CA-4002 D-Sub connectors
<b>PISO-P16R16U CR</b>	Universal PCI, 16-ch Isolated Digital Input, 16-ch Relay Output Board (RoHS) Includes one CA-4037W cable and two CA-4002 D-Sub connectors

### Features

- Universal PCI (3.3 V/5 V) Interface
- Supports Card ID (SMD Switch)
- 16-channel Relay Output
- 16-channel Optically-isolated Digital Input
  - 3750 Vrms Photo-isolation Protection
  - Selectable DC Signal Input Filter
  - AC Signal Input with Filter



### 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

Hardware	
Connector	Female DB37 x 1 40-pin box header x 1
Digital Input	
Channels	16
Type	Photocoupler (Sink and Source)
Response Speed	Without Filter: 50 kHz (Typical) With Filter: 0.455 kHz(Typical)
Trigger Mode	Static Update
Wet Contact, ON Voltage Level	AC/DC 5 ~ 24 V (AC 50 ~ 1 kHz)
Wet Contact, OFF Voltage Level	AC/DC 0 ~ 1 V
Isolation	3750 Vrms
Relay Output	
Channels	16
Type	8 SPDT, 8 SPST
Contact Rating	AC: 120 V @ 0.5 A DC: 24 V @ 1 A
Operate Time	1 ms (Typical)
Release Time	7 ms (Typical)
Electrical Endurance	100,000 ops.
Mechanical Endurance	5,000,000 ops.
PC Bus	
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Data Bus	8-bit
Power	
Consumption	800 mA @ +5 V
Mechanical	
Dimensions (mm)	105 x 183 x 22 (W x L x D)
Environmental	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing

## Accessories

	CA-3710	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°))
	CA-3710D	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°))
	CA-3715DM-H	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS)
	CA-3730DM-H	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
	CA-3750DM	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
	CA-3750DM-H	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
	CA-4002	37-pin Male D-sub connector with plastic cover.
	CA-4037W	40-pin flat & D-sub 37-pin Female cable 24 cm.
	DB-37	Directly connect signal to D-sub 37-pin connector
	DN-37	DIN Rail Mounting 37-pin Connector

