



## PCI-P8R8U

Universal PCI, 8-ch Optically Isolated Digital Input and 8-ch Relay Output Board

## PCI-P16R16U

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

### Introduction

The PCI-P8R8U/P16R16U Universal PCI card supports the 3.3 V/5 V PCI bus and provides 8 or 16 optically-isolated Digital Input channels and 8 or 16 Relay Output channels. The DI channels provide 5000 Vrms isolation protection that allows the input signals to be completely floated so as to prevent ground loops and isolate the host computer from potentially damaging voltage spikes. The Relay Output channels can be used where it is necessary to control a circuit using a low-power signal, with complete electrical isolation between the control and the controlled circuits, or where several circuits need to be controlled by a single signal.

The PCI-P8R8U/P16R16U cards also includes 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.

PCI-P8R8U/P16R16U cards can be used in a variety of applications, such as controlling the ON/OFF state of external devices, driving external relays or small power switches, activating alarms, contact closure, or sensing external voltages or switches, etc.

### Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
NO_0	01	NO_3	NO_8	01	NO_11
COM_0	02	COM_3	COM_8	03	COM_11
NC_0	03	NC_3	NC_8	05	NC_11
NO_1	04	NO_4	NO_9	07	NO_12
COM_1	05	COM_4	COM_9	09	COM_12
NC_1	06	NC_4	NC_9	11	NO_13
NO_2	07	NO_5	NO_10	13	COM_13
COM_2	08	COM_5	COM_10	15	NO_14
NC_2	09	NC_5	NC_10	17	COM_14
NO_7	10	NO_6	NO_15	19	GND
COM_7	11	COM_6	COM_15	21	DIB_8
DIA_0	12	DIA_8	DIA_8	23	DIB_9
DIA_1	13	DIA_9	DIA_9	25	DIB_10
DIA_2	14	DIA_10	DIA_10	27	DIB_11
DIA_3	15	DIA_11	DIA_11	29	DIB_12
DIA_4	16	DIA_12	DIA_12	31	DIB_13
DIA_5	17	DIA_13	DIA_13	33	DIB_14
DIA_6	18	DIA_14	DIA_14	35	DIB_15
DIA_7	19	DIA_15	DIA_15	37	N/A
		N/A	N/A	39	N/A

CON1 (left side), CON2 (right side)

### Features

- Universal PCI (3.3 V/5 V) Interface
- 8/16-channel Optically-isolated Digital Input
- 8/16-channel Relay Output
- Selectable DC Signal Input Filter
- AC Signal Input with Filter
- 5000 Vrms Photo-isolation Protection



### Software

#### Drivers

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

#### 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

Models	PCI-P8R8U	PCI-P16R16U
<b>Hardware</b>		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1	Female DB37 x 1 40-pin box header x 1
<b>Digital Input</b>		
Channels	8	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	5000 Vrms	
<b>Relay Output</b>		
Channels	8	16
Type	4 SPDT ,4 SPST	8 SPDT ,8 SPST
Contact Rating	AC: 120 V @ 0.5 A DC: 24 V @ 1 A	
Operate Time	5 ms (Typical)	
Release Time	10 ms (Typical)	
Electrical Endurance	100,000 ops.	
Mechanical Endurance	5,000,000 ops.	
<b>PC Bus</b>		
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Data Bus	16-bit	
<b>Power</b>		
Consumption	500 mA @ +5 V	800 mA @ +5 V
<b>Mechanical</b>		
Dimensions (mm)	105 x 183 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	

## Ordering Information

<b>PCI-P8R8U CR</b>	Universal PCI, 8-ch Optically Isolated Digital Input and 8-ch Relay Output Board (RoHS) Includes one CA-4002 D-Sub connector
<b>PCI-P16R16U CR</b>	Universal PCI, 16-ch isolated digital input and 16-ch Relay output (RoHS) Includes one CA-4037W cable and two CA-4002 D-Sub connectors

## 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

