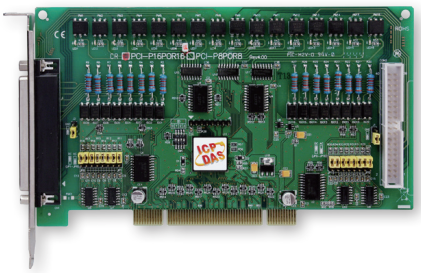
PCI-P16POR16U NEW

Universal PCI, 16-channel Isolated Digital Input and
16-channel PhotoMOS Relay Output Board



Features

- Universal PCI (3.3 V/5 V) Interface
- LED Power Indicator
- 16-channel Optically-isolated Digital Input
  - 5000 V_{rms} Photo-isolation Protection
  - Selectable DC Signal Input Filter
  - AC Signal Input with Filter
- High-speed DI/O Operation
- 16-channel PhotoMOS Relay Output
  - Long-life, High-reliability PhotoMOS Relay
  - Low leakage current when PhotoMOS Relay is OFF
  - No Acoustical Noise
  - No Contact Bounce or Sparking

Introduction

The PCI-P16POR16U Universal PCI card supports the 3.3 V/5 V PCI bus and provides 16 optically-isolated Digital Input channels and 16 PhotoMOS Relay Output channels. Both the isolated DI channels and the PhotoMOS Relay channels use a short optical transmission path to transfer an electronic signal between elements of a circuit and keep them electrically isolated.

ThePCI-P16POR16U provides 5000 V_{rms} isolation protection for the DI channels, 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 PhotoMOS Relays are 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 must be controlled by a single signal.

This card 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.

The PCI-P16POR16U cards also include an onboard Card ID switch that enables the board to be recognized via software if two or more cards are installed in the same computer. The PCI-P16POR16U is designed as a direct replacement for the PCI-P16POR16 without requiring any modification to the software or the driver.

Pin Assignments

Pin Assignment	Terminal No.		Pin Assignment
NO_0	01	20	CM_0
NO_1	02	21	CM_1
NO_2	03	22	CM_2
NO_3	04	23	CM_3
NO_4	05	24	CM_4
NO_5	06	25	CM_5
NO_6	07	26	CM_6
NO_7	08	27	CM_7
N/A	09	28	N/A
N/A	10	29	N/A / GND
N/A	11	30	DIB_0
DIA_0	12	31	DIB_1
DIA_1	13	32	DIB_2
DIA_2	14	33	DIB_3
DIA_3	15	34	DIB_4
DIA_4	16	35	DIB_5
DIA_5	17	36	DIB_6
DIA_6	18	37	DIB_7
DIA_7	19		

CON1

Pin Assignment	Terminal No.		Pin Assignment
NO_8	01	02	CM_8
NO_9	03	04	CM_9
NO_10	05	06	CM_10
NO_11	07	08	CM_11
NO_12	09	10	CM_12
NO_13	11	12	CM_13
NO_14	13	14	CM_14
NO_15	15	16	CM_15
N/A	17	18	N/A
N/A	19	20	N/A / GND
N/A	21	22	DIB_8
DIA_8	23	24	DIB_9
DIA_9	25	26	DIB_10
DIA_10	27	28	DIB_11
DIA_11	29	30	DIB_12
DIA_12	31	32	DIB_13
DIA_13	33	34	DIB_14
DIA_14	35	36	DIB_15
DIA_15	37	38	N/A
N/A	39	40	N/A

CON2

Software

Drivers

- ✓ 32/64-bit Windows XP/2003/2008/Vista/7/8
- ✓ 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

Digital Input		
Channels		16
Isolation Voltage		5000 V_{rms} (Photocoupler)
Input Voltage		Logic 1:AC/DC +5 ~ +24 V (AC 50 ~ 1 kHz) Logic 0: AC/DC 0 ~ +1 V
Input Impedance		1.2 KΩ, 0.5 W
Response Speed		Without Filter: 50 kHz (Typical) With Filter: 0.455 kHz (Typical)
Digital Output		
Channels		16
Relay Type		PhotoMOS (Form A)
Contact Rating	Load Voltage	300 V (AC Peak or DC)
	Load Current	130 mA
Operating Time		0.7 ms (Typical)
Release Time		0.05 ms (Typical)
Insulation Resistance		23 MΩ
Electrical Endurance		Long Life and No Spike
General		
Bus Type		5 V PCI, 32-bit, 33 MHz
I/O Connector		Female DB37 x 1 40-pin Box Header x 1
Power Consumption		800 mA @ +5 V
Operating Temperature		0 to +60 °C
Humidity		5 to 85% RH, Non-condensing

Ordering Information

PCI-P16POR16U CR **Art. No. 146380**	Universal PCI, 16-channel Isolated Digital Input and 16-channel PhotoMOS Relay Output Board (RoHS). Includes one CA-4037W Cable and two CA-4002 D-sub Connectors.