



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	Terminal No.	Pin Assignment			
NO_0	01	NO_3	20	NO_8	01	NO_11	02
COM_0	02	COM_3	21	COM_8	03	COM_11	04
NC_0	03	NC_3	22	NC_8	05	NC_11	06
NO_1	04	NO_4	23	NO_9	07	NO_12	08
COM_1	05	COM_4	24	COM_9	09	COM_12	10
NC_1	06	NC_5	25	NC_9	11	NC_12	12
NO_2	07	COM_5	26	NO_10	13	COM_13	14
COM_2	08	NO_6	27	COM_10	15	NO_14	16
NC_2	09	COM_6	28	NC_10	17	COM_14	18
NO_7	10	GND	29	NO_15	19	GND	20
COM_7	11	DIB_0	30	COM_15	21	DIB_8	22
DIA_0	12	DIB_1	31	DIA_8	23	DIB_9	24
DIA_1	13	DIB_2	32	DIA_9	25	DIB_10	26
DIA_2	14	DIB_3	33	DIA_10	27	DIB_11	28
DIA_3	15	DIB_4	34	DIA_11	29	DIB_12	30
DIA_4	16	DIB_5	35	DIA_12	31	DIB_13	32
DIA_5	17	DIB_6	36	DIA_13	33	DIB_14	34
DIA_6	18	DIB_7	37	DIA_14	35	DIB_15	36
DIA_7	19			DIA_15	37	N/A	38
				N/A	39	N/A	40
		CON1				CON2	

Ordering Information

PISO-P16R16U	Universal PCI, 16-ch Isolated Digital Input, 16-ch Relay Output Board Includes one CA-4037W cable and two CA-4002 D-Sub connectors
PISO-P16R16U CR	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 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)
	CA-4037W CR	40-pin flat & D-sub 37-pin Female cable 24 cm (RoHS)
	DB-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
	DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)

