

## PEX-D24

PCI Express, 24-ch Digital I/O Board

## PEX-D56

PCI Express, 56-ch Digital I/O Board

### Introduction

The PEX-D24/D56 series utilizes the PCI Express bus and is designed as an easy replacement for the PIO-D24/PIO-D24U/PIO-D56/PIO-D56U series without requiring any modification to either the software or the driver.

The PEX-D24/D56 provides 24/56 buffered TTL Digital Input/Output lines, which are grouped into three 8-bit bi-directional ports: Port A (PA), Port B (PB) and Port C (PC), and are configured as input mode during power-on or after a reset.

The PEX-D24/D56 also includes an onboard Card ID that enables the board to be easily recognized via software if two or more cards are installed in the same computer.

### Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
N.C	01		DI 0	01	DI 1
N.C	02	20 +5V	DI 2	03	DI 3
PB_7	03	21 GND	DI 4	05	DI 5
PB_6	04	22 PC_7	DI 6	07	DI 7
PB_5	05	23 PC_6	DI 8	09	DI 9
PB_4	06	24 PC_5	DI 10	11	DI 11
PB_3	07	25 PC_4	DI 12	13	DI 13
PB_2	08	26 PC_3	DI 14	15	DI 15
PB_1	09	27 PC_2	GND	17	DI 18
PB_0	10	28 PC_1	+5 V	19	DI 20
GND	11	29 PC_0			DI 21
N.C	12	30 PA_7			DI 22
GND	13	31 PA_6			DI 23
N.C	14	32 PA_5			DI 24
GND	15	33 PA_4			DI 25
N.C	16	34 PA_3			DI 26
GND	17	35 PA_2			DI 27
+5V	18	36 PA_1			DI 28
GND	19	37 PA_0			DI 29
					DI 30
					DI 31
					DI 32
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### Ordering Information

<b>PEX-D24 CR</b>	PCI Express, 24-ch Digital I/O Board (RoHS)
<b>PEX-D56 CR</b>	PCI Express, 56-ch Digital I/O Board (RoHS)

### Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- Emulates two Industrial-standard 8255 PPI Ports (Mode 0)
- DI/O Response Time approximately 2  $\mu$ s (500 kHz Max.)
- 24/56 Buffered TTL Digital Input/Output Lines
- Three 8-bit Bi-directional I/O Ports
- DO Provides Higher Driving Capability
- Four Interrupt Sources



### Software

#### Drivers

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

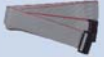















#### Sample Programs

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

### Hardware Specifications

Model	PEX-D24	PEX-D56
<b>Programmable DI/O</b>		
Channels	24	
<b>Digital Input</b>		
Channels	-	16
Compatibility	5 V/TTL	
Input Voltage	Logic 0: 0.8 V Max. Logic 1: 2.0 V Min.	
Response Speed	500 kHz	
<b>Digital Output</b>		
Channels	-	16
Compatibility	5 V/TTL	
Output Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.	
Output Capability	Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V	CN1 Sink: 2.4 mA @ 0.8 V Source: 0.8 mA @ 2.0 V  CN3 Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V
Response Speed	500 kHz	
<b>General</b>		
Bus Type	PCI Express x1	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1	Female DB37 x 1, 20-pin Male Box Header x 2
Power Consumption	650 mA @ +3.3 V 0 mA @ +12 V	750 mA @ +3.3 V 0 mA @ +12 V
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

## Accessories

	CA-2010	20-pin flat cable, 1 M
	CA-2020	20-pin flat cable, 2 M.
	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-4002	37-pin Male D-sub connector with plastic cover.
	DB-24PD	24-channel of isolated D/I board
	DB-24RD	24-channel of relay board
	DB-24PRD	24-channel of power relay board
	DB-24POR	24-channel of PhotoMos Relay output board
	DB-24SSR	24-channel Photo Mos relay output board
	DB-24C	24-channel of open-collector output board
	DN-20/DN-20-381	I/O Connector Block with DIN-Rail Mounting and two 20-Pin Header
	DN-37/DN-37-381	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector

