



## 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	20	+5V	DI 0	01
N.C	02	21	GND	DI 2	03
PB_7	03	22	PC_7	DI 4	05
PB_6	04	23	PC_6	DI 6	07
PB_5	05	24	PC_5	DI 8	09
PB_4	06	25	PC_4	DI 10	11
PB_3	07	26	PC_3	DI 12	13
PB_2	08	27	PC_2	DI 14	15
PB_1	09	28	PC_1	GND	17
PB_0	10	29	PC_0	+5 V	19
GND	11	30	PA_7	CON2 (PEX-D56 only)	
N.C	12	31	PA_6	Pin Assignment	Terminal No.
GND	13	32	PA_5	DO 0	01
N.C	14	33	PA_4	DO 2	03
GND	15	34	PA_3	DO 4	05
N.C	16	35	PA_2	DO 6	07
GND	17	36	PA_1	DO 8	09
+5V	18	37	PA_0	DO 10	10
GND	19			DO 12	12
				DO 14	14
				DO 16	16
				GND	18
				+5 V	20
				CON1 (PEX-D56 only)	

### 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 10/11
- Linux

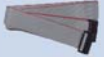















#### Sample Programs

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

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

