



PIO-D24U

Universal PCI, 24-ch Digital I/O Board

PIO-D56U

Universal PCI, 56-ch Digital I/O Board

Introduction

The PIO-D24U/D56U cards are designed to be fully compatible with PIO-D24/D56 boards. The PIO-D24U/D56U series can be used as a direct replacement for PIO-D24/D56 boards without requiring any modification to the software or the driver.

The PIO-D24U/D56U supports the 3.3 V/5 V PCI bus, and contains three 8-bit bi-directional I/O ports, referred to as Port A (PA), Port B (PB) and Port C (PC), respectively. Each port is configured as an input on power-up or after a reset. In addition, the PIO-D56U also provides 16 Digital Input channels and 16 Digital Output channels.

The PIO-D24U/D56U cards also include 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.

Pin Assignments

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

CON2 (PIO-D56U only)

Pin Assignment	Terminal No.	Pin Assignment
DI 0	01	DO 0
DI 2	03	DO 2
DI 4	05	DO 4
DI 6	07	DO 6
DI 8	09	DO 8
DI 10	11	DO 10
DI 12	13	DO 12
DI 14	15	DO 14
GND	17	DO 16
+5 V	19	DO 18

CON1 (PIO-D56U only)

Features

- Universal PCI (3.3 V/5 V) Interface
- 24/56 Buffered TTL Digital I/O Lines
- Three 8-bit Bi-directional Programmable I/O Ports
- Emulates two Industrial-standard 8255 PPI Ports (Mode 0)
- 4-channel Interrupt Source
- Supports Card ID (SMD Switch)
- Supports DO Status Readback (Register Level)
- DI/O Response Time approximately 1 μ s (1 MHz)



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

Model	PIO-D24U	PIO-D56U	
Programmable DIO			
Channels	24		
Digital Input			
Channels	-	16	
Compatibility	5V/TTL		
Input Voltage	Logic 0: 0.8 V Max. Logic 1: 2.0 V Min.		
Response Speed	1 MHz		
Digital Output			
Channels	-	16	
Compatibility	5V/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	1 MHz		
General			
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz		
Card ID	Yes (4-bit)		
Connectors	Female DB37 x 1	Female DB37 x 1, 20-pin Male Box Header x 2	
Power Consumption	420 mA @ +5 V	580 mA @ +5 V	
Operating Temperature	0°C to +60°C		
Humidity	5 to 85% RH, Non-condensing		

Ordering Information

PIO-D24U CR	Universal PCI, 24-ch Digital I/O Board (RoHS)
PIO-D56U CR	Universal PCI, 56-ch Digital I/O Board (RoHS)

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/DN-20-381 CR	I/O Connector Block with DIN-Rail Mounting and two 20-Pin Header (RoHS)
	DN-37/DN-37-381 CR	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector (RoHS)

