

PIO-D24U

Universal PCI, 24-ch Digital I/O Board

PIO-D56U

Universal PCI, 56-ch Digital I/O Board

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 µs (1 MHz)

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
N.C	01	20	+5 V
N.C	02	21	GND
PB_7	03	22	PC_7
PB_6	04	23	PC_6
PB_5	05	24	PC_5
PB_4	06	25	PC_4
PB_3	07	26	PC_3
PB_2	08	27	PC_2
PB_1	09	28	PC_1
PB_0	10	29	PC_0
GND	11	30	PA_7
N.C.	12	31	PA_6
GND	13	32	PA_5
N.C.	14	33	PA_4
GND	15	34	PA_3
N.C.	16	35	PA_2
GND	17	36	PA_1
+5 V	18	37	PA_0
GND	19		

CON3

Pin Assignment	Terminal No.		Pin Assignment
DI 0	01	02	DI 1
DI 2	03	04	DI 3
DI 4	05	06	DI 5
DI 6	07	08	DI 7
DI 8	09	10	DI 9
DI 10	11	12	DI 11
DI 12	13	14	DI 13
DI 14	15	16	DI 15
GND	17	18	GND
+5 V	19	20	+12 V

CON2 (PIO-D56U only)

Pin Assignment	Terminal No.		Pin Assignment
DO 0	01	02	DO 1
DO 2	03	04	DO 3
DO 4	05	06	DO 5
DO 6	07	08	DO 7
DO 8	09	10	DO 9
DO 10	10	12	DO 11
DO 12	12	14	DO 13
DO 14	14	16	DO 15
GND	16	18	GND
+5 V	18	20	+12 V

CON1 (PIO-D56U only)

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)

Software

Drivers

- ☑ 32/64-bit Windows 10/11
- ☑ Linux
- ☑ DASYLab

Sample Programs

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

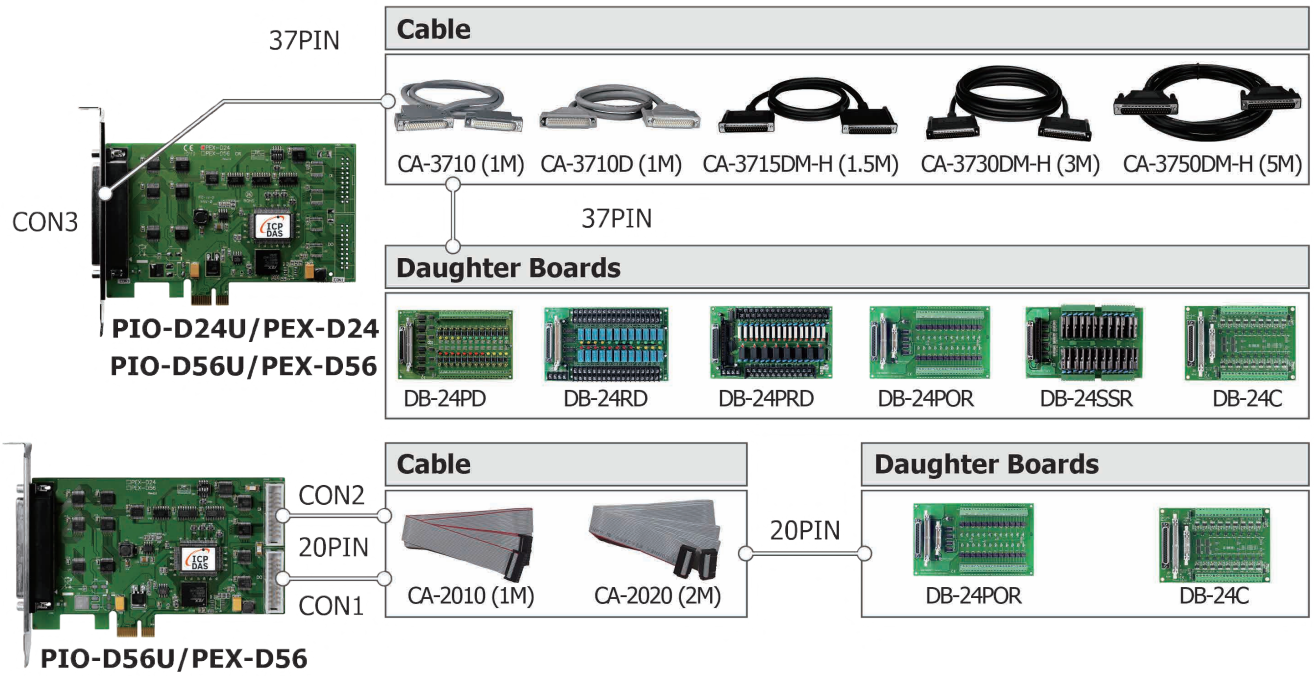
Hardware Specifications

Model	PIO-D24U	PIO-D56U
Hardware		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1	Female DB37 x 1 20-pin box header x 2
Digital Input		
Channels	24 (Bi-Direction)	24 (Bi-Direction) + 16
Type	5 V/TTL	
ON Voltage Level	2.0 V Min.	
OFF Voltage Level	0.8 V Max.	
Response Speed	1.0 MHz (Typical)	
Trigger Mode	Static Update	
Digital Output		
Channels	24 (Bi-Direction)	24 (Bi-Direction) + 16
Type	5 V/TTL	
Operation Mode	Static Update	
Load Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.	
Load Current	Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V	CON1: Sink: 2.4 mA @ 0.8 V Source: 0.8 mA @ 2.0 V CON3: Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V
Response Speed	1.0 MHz (Typical)	
PC Bus		
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Data Bus	8-bit	
Power		
Consumption	420 mA @ +5 V	580 mA @ +5 V
Mechanical		
Dimensions (mm)	86 x 134 x 22 (W x L x D)	
Environment		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

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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)



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