



PIO-D64U

Universal PCI, 64-ch Digital I/O Board with Timer/Counter

Introduction

The PIO-D64U card is designed as a direct replacement for the PIO-D64 without requiring any modification to the software or the driver.

The PIO-D64U Universal PCI card supports the 3.3 V/5 V PCI bus, and provides 32 Digital Input channels and 32 Digital Output channels that consist of two 16-bit input ports and two 16-bit output ports. The PIO-D64U also includes a 6-channel counter/timer that can use four clock sources, 250 kHz, 500 kHz, 1 MHz, and 2 MHz, which can be sourced from the soldering pad. Three of the six channels can be used for general purposes, such as frequency measurement, event counting or pulse generation, while the remaining channels are for interrupt functions.

The PIO-D64U card also includes 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.

Hardware Specifications

Digital Input	
Channels	32
Compatibility	5 V/TTL
Input Voltage	Logic 0: 0.8 V Max.; Logic 1: 2.0 V Min.
Response Speed	1 MHz
Digital Output	
Channels	32
Compatibility	5 V/TTL
Output Voltage	Logic 0: 0.4 V Max.; Logic 1: 2.4 V Min.
Output Capability	Sink: 24 mA @ 0.8 V; Source: 15 mA @ 2.0 V
Response Speed	1 MHz
Timer/Counter	
Channels	6 (Independent x 3/EVTIRQ x 1/TMRIRQ x 1/EXTIRQ x 1)
Resolution	16-bit
Input Frequency	10 MHz Max.
Reference Clock	Internal: 4 MHz
General	
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Card ID	Yes (4-bit)
Connectors	20-pin Box Header x 5
Power Consumption	580 mA @ +5 V
Operating Temperature	0°C to +60°C
Humidity	5 to 85% RH, Non-condensing

Features

- Universal PCI (3.3 V/5 V) Interface
- 32-channel Digital Input
- 32-channel Digital Output
- Interrupt Trigger via Event/Timer Trigger
- 3 Independent Programmable 16-bit Down Counters
- Supports Card ID (SMD Switch)
- Programmable Interrupt Handling
- 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 Demo
- LabVIEW Toolkit
- VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
DO 0	01	02	DO 1	DI 0	01
DO 2	03	04	DO 3	DI 2	03
DO 4	05	06	DO 5	DI 4	05
DO 6	07	08	DO 7	DI 6	07
DO 8	09	10	DO 9	DI 8	09
DO 10	10	12	DO11	DI 10	11
DO 12	12	14	DO 13	DI 12	13
DO 14	14	16	DO 15	DI 14	15
GND	16	18	GND	GND	17
+5 V	18	20	+12 V	+5 V	19
			CN1		CN2












Pin Assignment	Terminal No.	Pin Assignment	Pin Assignment	Terminal No.	Pin Assignment
DO 16	01	02	DO 17	DI 16	01
DO 18	03	04	DO 19	DI 18	03
DO 20	05	06	DO 21	DI 20	05
DO 22	07	08	DO 23	DI 22	07
DO 24	09	10	DO 25	DI 24	09
DO 26	10	12	DO 27	DI 26	11
DO 28	12	14	DO 29	DI 28	13
DO 30	14	16	DO 31	DI 30	15
GND	16	18	GND	GND	17
+5 V	18	20	+12 V	+5 V	19
			CN3		CN4

Pin Assignment	Terminal No.	Pin Assignment	
CLK 2	01	02 CLK 1	
OUT 2	03	04 OUT 1	
GATE 2	05	06 GATE 1	
CLK 3	07	08 CLK 0	
OUT 3	09	10 OUT 0	
GATE 3	10	12 GATE 0	
GATE 4	12	14 CLK 4	
-	14	16 OUT 4	
GND	16	18 GND	
+5 V	18	20 -	
			CN5

Ordering Information

PIO-D64U CR	Universal PCI, 64-ch Digital I/O Board with Timer/Counter (RoHS)
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Accessories

	CA-2002	20-pin flat cable, 20 cm x 2
	CA-2010	20-pin flat cable, 1 M
	CA-2020	20-pin flat cable, 2 M.
	DB-24PR	24-channel power relay board
	DB-24POR	24-channel of PhotoMos Relay output board
	DB-24SSR	24-channel Photo Mos relay output board
	DN-20	Two 20-pin header DIN-rail terminal board
	DN-20/N	DN-20 without DIN-Rail mount.
	DB-16P	Isolated Digital Input Daughter Board
	DB-16R	Relay Output Daughter Board
	ADP-20/PCI	20-pin extender

