PIO-D64U

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

Features

- Universal PCI (3.3 V/5 V) Interface, Plug & Play
- 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: ~0.77 μs (1.3 MHz Max.)

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.

Software

Drivers

- ✓ 32/64-bit Windows XP/2003/2008/Vista/7/8
- ✓ Linux
- ✓ DASYLab

Sample Programs

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

Hardware Specifications

Digital Input	
Channels	32
	5 V/TTL
Input Voltage	Logic 0: 0.8 V Max.; Logic 1: 2.0 V Min.
Response Speed	1.2 MHz (Typical)
Digital Output	
Channels	32
	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	1.2 MHz (Typical)
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

Pin Assignments

CN1

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

CN2

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	STROBE1

CN3

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

CN4

Pin Assignment	Terminal No.		Pin Assignment
DI 16	01	02	DI 17
DI 18	03	04	DI 19
DI 20	05	06	DI 21
DI 22	07	08	DI 23
DI 24	09	10	DI 25
DI 26	11	12	DI 27
DI 28	13	14	DI 29
DI 30	15	16	DI 31
GND	17	18	GND
+5 V	19	20	STROBE2

CN5

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	-

Ordering Information

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