

PIO-DA4U/DA8U/DA16U

Universal PCI, 14-bit, 4/8/16-channel Analog Output Board



Features

- Universal PCI (3.3 V/5 V) Interface
- 14-bit, 4/8/16-channel Analog Output
 - Software Calibration
 - Two Timer-triggered Interrupt Sources
 - Double-buffered DA Latch
- 16-channel 5 V/TTL Digital Output
- 16-channel 5 V/TTL Digital Input
 - Pull-high and Pull-low Function for DI Channels
- Supports Card ID (SMD Switch)

Introduction

The PIO-DA4U/DA8U/DA16U series cards are compatible with the PCI versions of the PIO-DA4/DA8/DA16 cards and, in most cases, the PIO-DA4U/DA8U/DA16U series can be used as a direct replacement for the PIO-DA4/DA8/DA16 series without requiring any modification to the software or the driver.

The voltage output range for the PIO-DA4U/DA8U/DA16U series is from -10 V to +10 V, and the current output range is from 0 to 20 mA.

In addition, the PIO-DA4U/DA8U/DA16U series also features the following innovative advantages:

1. Accurate and easy-to-use calibration:

ICP DAS provides a software calibration function rather than manual calibration so that jumpers and trim-pots are no longer required for calibration, and the calibration data can be saved in the EEPROM for long-term use.

2. Individual channel configuration:

Each channel can be individually configured as either voltage or current output.

3. Card ID:

ICP DAS has also included an onboard Card ID switch on the PIO-DA4U/DA8U/DA16U series 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/BC/MSC Demo
- ☒ LabVIEW Toolkit
- ☒ VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo



Hardware Specifications

Model		PIO-DA4U	PIO-DA8U	PIO-DA16U
Analog Output				
Channels		4	8	16
Resolution		14-bit		
Accuracy		0.04% of FSR ± 2 LSB @ 25°C, ± 10 V		
Output Driving		± 5 mA		
Output Range	Voltage	± 10 V		
	Current	0 $\sim$ +20 mA		
Output Impedance		0.1 Ω Max.		
Digital I/O				
Channels	DI	16, 5 V/TTL		
	DO	16, 5 V/TTL		
Input Voltage		Logic 0: 0.8 V Max.; Logic 1: 2.0 V Min.		
Output Voltage		Logic 0: 0.4 V Max.; Logic 1: 2.4 V Min.		
Output Capability		Sink: 2.4 mA @ 0.8 V; Source: 0.8 mA @ 2.0 V		
Timer/Counter				
Channels		3		
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		Female DB37 x 1, 20-pin Box Header x 2		
Power Consumption		600 mA @ +5 V	800mA @ +5 V	1400 mA @ +5 V
Operating Temperature		0°C to +60°C		
Humidity		5 to 85% RH, Non-condensing		



Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment	Terminal No.	Pin Assignment
VO_0	01	20	IO_0	
VO_1	02	21	IO_1	
VO_2	03	22	IO_2	
VO_3	04	23	IO_3	
A.GND	05	24	N/A	
VO_4	06	25	IO_4	
VO_5	07	26	IO_5	
VO_6	08	27	IO_6	
VO_7	09	28	IO_7	
A.GND	10	29	N/A	
VO_8	11	30	IO_8	
VO_9	12	31	IO_9	
VO_10	13	32	IO_10	
VO_11	14	33	IO_11	
A.GND	15	34	IO_12	
VO_12	16	35	IO_13	
VO_13	17	36	IO_14	
VO_14	18	37	IO_15	
VO_15	19			

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	11	12 DO 11
DO 12	13	14 DO 13
DO 14	15	16 DO 15
GND	17	18 GND
+5 V	19	20 +12 V

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	10	12 DI 11
DI 12	12	14 DI 13
DI 14	14	16 DI 15
GND	16	18 GND
+5 V	18	20 +12 V

Ordering Information

PIO-DA4U CR	Universal PCI, 4-channel DA Board (RoHS). Includes one CA-4002 D-sub Connector.
PIO-DA8U CR	Universal PCI, 8-channel DA Board (RoHS). Includes one CA-4002 D-sub Connector.
PIO-DA16U CR	Universal PCI, 16-channel DA Board (RoHS). Includes one CA-4002 D-sub Connector.