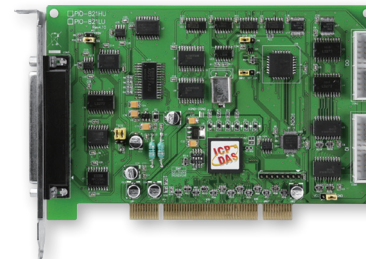


PIO-821LU/PIO-821HU

Available soon

Universal PCI, 16-ch 12-bit, 45 kS/s Multi-Function Board



Features

- Universal PCI (3.3 V/5 V) interface, Plug & Play
- 12-bit, 16 S.E./8 Diff. analog inputs
- 45 kS/s A/D sampling rate
- 16-ch 5V/TTL DO
- 16-ch 5V/TTL DI
- 1-ch, 12-bit analog output
- A/D trigger: software trigger, pacer trigger, external trigger
- Supports Card ID (SMD Switch)
- Pull-high/ pull-low resistors for DI channel
- Interrupt handling

Introduction

The PIO-821LU/HU card is the new generation product that ICP DAS provides to meet RoHS compliance requirement. The new PIO-821LU/HU card is designed as a drop-in replacement for the PIO-821L/H, and users can replace the PIO-821L/H by the PIO-821LU/HU directly without software/driver modification.

The PIO-821LU/HU card is a high performance multifunction board for PC/AT compatible computers. They feature a 12-bit ADC and the maximum sampling rate of the A/D converter reaches up to about 45K samples/sec., 16 single-ended or 8 differential analog input channels, 12-bit DAC voltage output and 16 TTL-compatible digital input and digital output channels. The PIO-821L/LU provides for low gain (1, 2, 4, 8); and the PIO-821H/HU supports high gain (1, 10, 100, 1000).

The PIO-821LU/HU also adds a Card ID switch and pull-high/pull-low resistors for DI on board. Users can set Card ID on a board and recognize the board by the ID via software when using two or more PIO-821LU/HU cards in one computer. The pull-high/ pull-low resistors allow the DI status to be specified when the DI channels are unconnected; the DI status will remain in high or low status other than floating.

Software

Driver

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

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
AI_0	01	20 AI_8
AI_1	02	21 AI_9
AI_2	03	22 AI_10
AI_3	04	23 AI_11
AI_4	05	24 AI_12
AI_5	06	25 AI_13
AI_6	07	26 AI_14
AI_7	08	27 AI_15
A.GND	09	28 A.GND
A.GND	10	29 A.GND
N.C.	11	30 DAOOUT
N.C.	12	31 N.C.
+12V	13	32 GATE0
A.GND	14	33 N.C.
D.GND	15	34 GATE2
COUT0	16	35 COUT2
N.C.	17	36 EXT_INT
COUT1	18	37 EXT_CLK
VCC	19	

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
+5V	19	20 +12V

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
+5V	18	20 +12V

Hardware Specifications

Models	PIO-821LU	PIO-821HU
Analog Input		
Channels	16 S.E./8 Diff.	
A/D Converter	12-bit, 8 μ s Conversion time	
Sampling Rate	45 kS/s	
Accuracy	0.01% of FSR \pm 1 LSB @ 25 $^{\circ}$ C, \pm 10 V	
Analog Output		
Channels	1	
Resolution	12-bit	
Accuracy	0.01% of FSR \pm 1/2 LSB @ 25 $^{\circ}$ C, \pm 10 V	
Output Range	Unipolar: 0 ~ 5 V, 0 ~ 10 V, 0 ~ Ext Ref	
Output Driving	\pm 5 mA	
Digital Input/Outputs		
Channels	DI: 16-ch, 5 V/TTL DO: 16-ch, 5V/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	
Response Speed	1.2 MHz (Typical)	
Timer/Counter		
Channels	3 (Internal pacer x 1/Independent x 2)	
Resolution	16-bit	
Input Frequency	10 MHz max.	
Reference Clock	Internal: 2 MHz	
General		
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Card ID	Yes (4-bit)	
Connectors	Female DB-37 x 1, 20-pin box header x 2	
Power Consumption	960 mA @ +5 V	
Operating Temperature	0 $^{\circ}$ C ~ +60 $^{\circ}$ C	
Humidity	5 ~ 85% RH, non-condensing	

Ordering Information

PIO-821LU CR	Universal PCI, 45 kS/s Low gain 12-bit, 16-channel input, 1-channel D/A, Digital I/O board. (RoHS)
PIO-821HU CR	Universal PCI, 45 kS/s High gain 12-bit, 16-channel input, 1-channel D/A, Digital I/O board. (RoHS)