PC104PLUS-30I

16 Ch 14-bit PC/104+ A/D Board with DIO & D/A

DESCRIPTION

This multi-function I/O board features 16 analog inputs, 4 analog outputs, 3 counter/timers and 24 digital input/outputs. Overall analog input sampling speed is 100KHz with 14-bit resolution and ±2.5, ±5, ±10V input voltage ranges.

The PC104PLUS-30I is compatible with our PCI-730 which means users can develop on a desktop using the PCI board and change over to PC104-PLUS for the embedded system. The driver for both boards is identical and connector pinouts are the same.

Each board is supplied with an extensive Windows Software Developer's Kit with support for Windows 98/2000 and XP. We also have full driver support for Linux, with analog, digital & counter/timer commands supported.

For industrial and military COTS applications, the PC104PLUS-30I will operate reliably from -30 to +85degC. This makes the product ideal for integration into a variety of rugged applications including mining, avionics, scientific and heavy industrial.

Each board is temperature cycled for 24 hours and comes supplied with a temperature test certificate.

FEATURES

- Analog Input Channels: 16 SE or 8 Diff
- Resolution: 14 bit
- A/D Sampling Rate: 100kHz
- Input Voltage Ranges: ±2.5, ±5, ±10V
- Analog Output: 4x 14-bit D/A Channels
- Output Voltage Ranges: ±10V
- Digital I/O: 24 (3 x 8) TTL Level DIO Channels
- Counter/Timers: 3 x 16-bit (User)
- Trigger Modes: Digital External Hardware Trigger or Software Trigger
- FIFO: 2048 buffer with programmable word count Software Calibration
- Connectors: 2mm Pitch IDC26 (A/D & D/A); 2mm Pitch IDC40 (DIO)
- PC/104-Plus Version 1.2 Compatible
- OS Support: Windows98/ME/2000/XP (NT on request)
- Linux OS Support
- WaveView for Windows Data Acquisition & Logging Software
- Third Part Support: Labview, Testpoint & Agilent-VEE Driver Support Includes EDRE SDK with examples, drivers & example source code
- Operating Temperature: -30°C to +85°C

Specifications

ANALOG INPUTS (A/D)		
Input Characteristics		
Input Channels:		16 SE or 8 Differential
Input Ranges:		± 2.5V, ±5V, ±10V
Maximum Working Voltage:		± 11V relative to module ground
Resolution:		14-bit (1 in 16384)
Input Coupling:		DC
A/D Conversion Characteristics		
Max sampling rate:		100KHz
Relative Accuracy:		± 2 LSB maximum
A/D FIFO buffer size:		2048 samples
Acquisition Modes:		Digital Hardware or Software Trigger
Input Impedance:		1M Ohm
System Noise:		1 LSB
ANALOG OUTPUT (D/A)		
No of Channels:		4x 14-bit
Output Ranges:		± 10V
Full Scale Error:		± 2 LSB
Settling Time:		1mS to 0.1% of full scale
		2mS to 0.015% of full scale
Output Drive:		± 10V @ 5mA
Power On State:		0V
DIGITAL I/O (DIO)		
No of TTL I/O lines:		24
Logic Levels:	Input Low Voltage:	-0.5V to 0.8V
	Input High Voltage:	2.0V to 5.0V
	Output High Voltage Min:	2.4V
	Output Low Voltage Max:	0.45V
	Maximum Output Current:	2mA
DIGITAL TRIGGER		
Trigger Source:		External Trigger
Compatibility:		TTL
Pulse Width:		100nS
COUNTER/TIMERS		
Number of Counters:		3 (16-bit resolution) (82C54/TTL)
Clock Source: Jumper Selectable		Scaled Internal up to 8MHz (External)
Gate Source: Jumper Selectable		Software Controlled (External)
External Interface		
Connector Types:		2 mm Pitch IDC26 (A/D & D/A);
		2 mm Pitch IDC40 (DIO)
PC/104-Plus Interface		
Compliant:		PC104-Plus 1.2
		3.3V or 5.0V compatible with auto-detect
		Auto selected
Environmental / Physical		
Dimensions:		90 x 96 mm
Rel. Humidity:		0% to 90% (non-condensing)
Operating Temp:		**-30° to +85°C**
Power Requirements		+5V @ 1.5A typ

IDC-40M

CH1	2	1	CH0
CH3	4	3	CH2
CH5	6	5	CH4
CH7	8	7	CH6
CH9	10	9	CH8
CH11	12	11	CH10
CH13	14	13	CH12
CH15	16	15	CH14
DAC0	18	17	AGND
DAC2	20	19	DAC1
+VDD	22	21	DAC3
EXT_TRIGGER	24	23	-VDD
NOT USED	26	25	NOT USED

IDC-40M

PA0	1	2	PA1
PA2	3	4	PA3
PA4	5	6	PA5
PA6	7	8	PA7
PB0	9	10	PB1
PB2	11	12	PB3
PB4	13	14	PB5
PB6	15	16	PB7
PC0	17	18	PC1
PC2	19	20	PC3
PC4	21	22	PC5
PC6	23	24	PC7
DGND	25	26	NOT USED
CLK0	27	28	NOT USED
COUT0	29	30	GATE0
GATE1	31	32	CLK1
CLK2	33	34	COUT1
COUT2	35	36	GATE2
+5V	37	38	DGND
DGND	39	40	DGND

Ordering Information

Supplied with EDRE Software, Plastic PC/104 Mounting Kit and Ribbon Cables	
PC104PLUS-30I	PC104+ 100kHz 16 Channel 14-bit A/D, 24 DIO, Counters & 4x14-bit DACS - Extended Temperature Range Model (-30 to +85°)

Optional Accessories

ADPT-3740	DB37 (M) & IDC40 (M) to 41way Screw Terminal Adaptor
ADPT-2526	DB25 (M) & IDC26 (M) to 27way Screw Terminal Adaptor