

PCI-1002

32-channel 12-bit 110KS/s Low cost multi-function board



Features

- 32-bit +5V PCI bus, Plug & Play
- 12-bit resolution
- 32 single-ended or 16 differential analog inputs
- The sampling rate of single channel or multiple channels is 110 K samples/s
- Programmable gain: 1, 2, 4, 8 (PCI-1002L)
1, 10, 100, 1000 (PCI-1002H)
- Internal / external trigger
- Three different external trigger: post-trigger, pre-trigger, middle-trigger
- 16 digital input / 16 digital output channels

Functional Description

The PCI-1002 series is a family of A/D board for PC with PCI bus. It features a 110KHz data acquisition under DOS and Windows. The PCI-1002H/L provides 32-channel single-ended or 16-channel differential analog input, 16-channel digital input and 16-channel digital output. The -H means high gain mode and the -L means low gain mode. The PCI-1002 series provides three flexible external trigger mode: post-trigger, pre-trigger, middle-trigger.

Applications

- Laboratory Automation
- Production Test
- Sensor Interface

Specifications

Analog Input Specifications

- Number of channels: 32 single-ended or 16 differential
- Resolution: 12-bit
- ADC conversion rate: 110 KS/s max
- Input impedance: 10,000 M Ω //6pF
- Over voltage protection: $\pm 35V$
- Accuracy: 0.01 % of reading , ± 1 bit
- Linearity: ± 1 bit
- On chip sample & hold

PCI-1002L Input Range

Gain	Bipolar	Sampling Rate(Max.)
1	$\pm 10V$	110KS/s
2	$\pm 5V$	110KS/s
4	$\pm 2.5V$	110KS/s
8	$\pm 1.25V$	110KS/s

PCI-1002H Input Range

Gain	Bipolar	Sampling Rate(Max.)
1	$\pm 10V$	44KS/s
10	$\pm 1V$	36KS/s
100	$\pm 0.10V$	7KS/s
1000	$\pm 0.01V$	0.8KS/s

Timer

- Three of 16-bit independent timer, 8MHz input clock
- Timer 0: Internal pacer trigger timer
- Timer 1: External pacer trigger
- Timer 2: Machine independent timer for settling time delay

Digital I/O

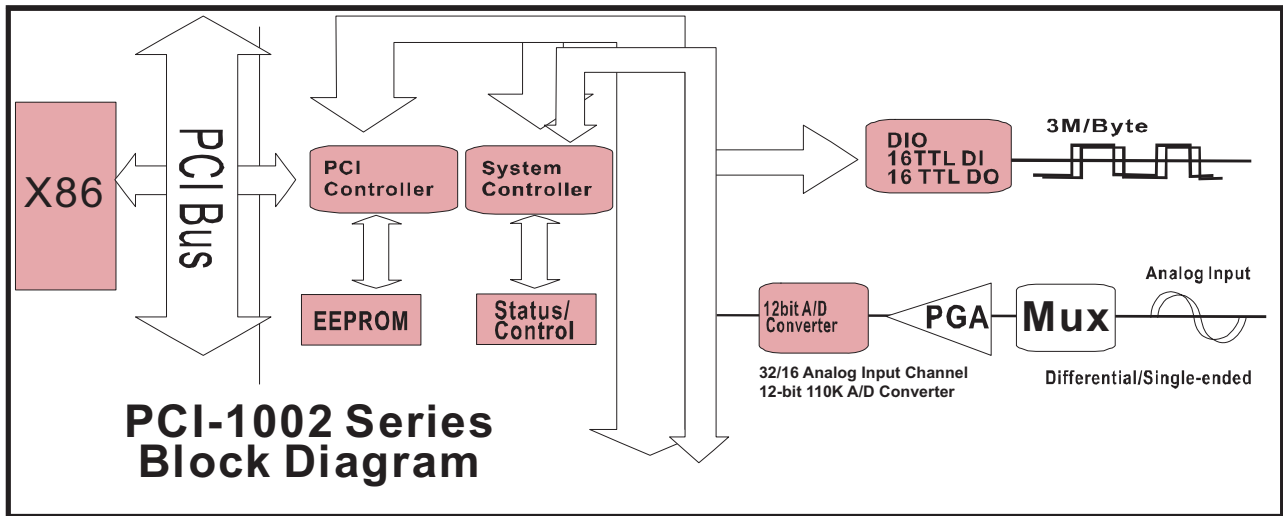
- 16 TTL-level input
- Input low $V_{IL} = 0.8V$ max; $I_{IL} = -0.4$ mA max
- Input high $V_{IH} = 2.0V$ min; $I_{IH} = 20$ μ A max
- 16 TTL-level output
- Output low $V_{OL} = 0.5V$ max; @ $I_{OL} = 8$ mA max
- Output high $V_{OH} = 2.7V$ min; @ $I_{OH} = 0.4$ mA max

General Specifications

- I/O connector: one 37-pin D-sub female
two 20-pin ribbon male
- Power requirements : +5V @ 350 mA Max
- Operating temperature: 0 ~ 60°C
- Operating humidity: 0 ~ 90% non-condensing
- Storage temperature: -20 ~ 70°C
- Dimensions: 175 mm x 105 mm

PCI-1002

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2 PCI Bus I/O Boards

Pin Assignment

CON1

DO 0	1	○	○	2	DO 1
DO 2	3	○	○	4	DO 3
DO 4	5	○	○	6	DO 5
DO 6	7	○	○	8	DO 7
DO 8	9	○	○	10	DO 9
DO 10	11	○	○	12	DO 11
DO 12	13	○	○	14	DO 13
DO 14	15	○	○	16	DO 15
D.GND	17	○	○	18	D.GND
+5V	19	○	○	20	+12V

CON2

DI 0	1	○	○	2	DI 1
DI 2	3	○	○	4	DI 3
DI 4	5	○	○	6	DI 5
DI 6	7	○	○	8	DI 7
DI 8	9	○	○	10	DI 9
DI 10	11	○	○	12	DI 11
DI 12	13	○	○	14	DI 13
DI 14	15	○	○	16	DI 15
D.GND	17	○	○	18	D.GND
+5V	19	○	○	20	+12V

CON3

D.GND	37	○	○	19	Ext Trg
N.C.	36	○	○	18	N.C.
AI 31	35	○	○	17	A.GND
AI 30	34	○	○	16	AI 15
AI 29	33	○	○	15	AI 14
AI 28	32	○	○	14	AI 13
AI 27	31	○	○	13	AI 12
AI 26	30	○	○	12	AI 11
AI 25	29	○	○	11	AI 10
AI 24	28	○	○	10	AI 9
AI 23	27	○	○	9	AI 8
AI 22	26	○	○	8	AI 7
AI 21	25	○	○	7	AI 6
AI 20	24	○	○	6	AI 5
AI 19	23	○	○	5	AI 4
AI 18	22	○	○	4	AI 3
AI 17	21	○	○	3	AI 2
AI 16	20	○	○	2	AI 1
		○	○	1	AI 0

Ordering Information

Standard

PCI-1002H: 32-channel 12-bit 44KS/s high gain multi-function board

PCI-1002H/S: PCI-1002H with DB-1825

PCI-1002L: 32-channel 12-bit 110KS/s low gain multi-function board

PCI-1002L/S: PCI-1002L with DB-1825

Optional

DB-1825 Screw terminal board with break area for filter circuitry added

DN-37: DIN-rail mounting terminal board

DB-37: Directly connection terminal board

DN-20: DIN-rail mounting terminal board

DB-16P: 16-channel isolated digital input board

DB-16R: 16-channel SPDT relay board

ADP-20/PCI: 20-pin extender