

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
- Conversion rate: 110 KS/s max
- Input impedance: 10,000 M Ω
- Over voltage protection: $\pm 35V$
- Accuracy: 0.01 % of reading , ± 1 bit
- Linearity: ± 1 bit
- On chip sample & hold

Gain	Bipolar	Max.Switching Frequency
1	$\pm 10V$	110K/s
2	$\pm 5V$	110K/s
4	$\pm 2.5V$	110K/s
8	$\pm 1.25V$	110K/s

PCI-1002H Input Range

Gain	Bipolar	Max.Switching Frequency
1	$\pm 10V$	44K/S
10	$\pm 1V$	36K/S
100	$\pm 0.10V$	7K/S
1000	$\pm 0.01V$	0.8K/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

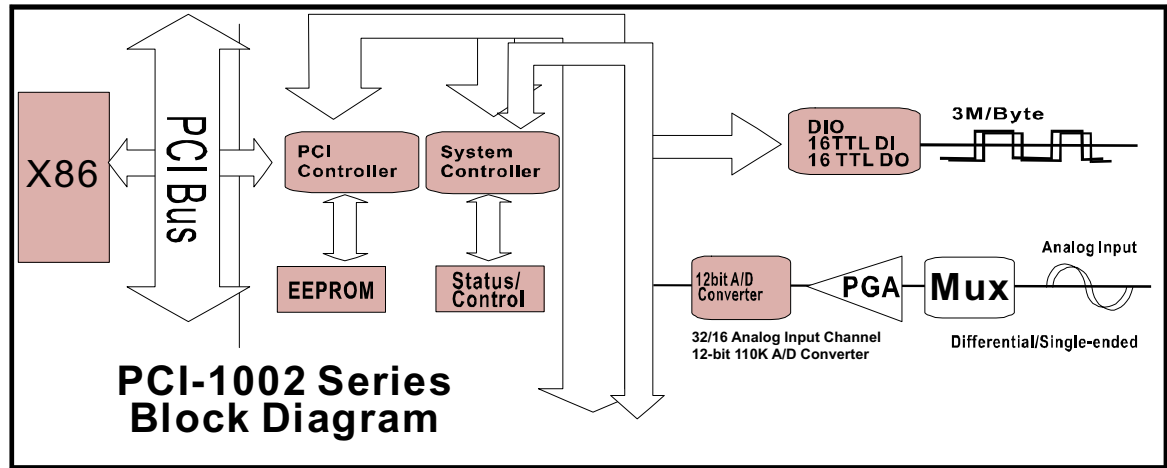
- 16 TTL-level input
- Input low $V_{IL} = 0.8V$ max; $I_{IL} = -0.4$ mA max
- Input high $V_{IH} = 2.0V$ min; $I_{IH} = 20 \mu A$ max
- 16 TTL-level output
- Output low $V_{OL} = 0.5V$ max; @ $I_{OL} = 8$ mA max
- Output high $V_{OH} = 2.7V$ min; @ $I_{OH} = 0.4$ mA max

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

110KS/s 12-bit low cost multi-function board



2 PCI Bus I/O Boards

Assignment

CN1

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

CN2

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

CN3

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 110KS/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