

PCI-9114 Series

32-CH 16-bit High Resolution
Multi-function DAS Cards

Features

- 32-bit PCI Bus, Plug and Play
- 32-CH single-ended, 16-bit differential inputs
- 16-bit high resolution AD converter
- Bipolar analog input ranges
- On-board 1K words FIFO memory
- Auto-scanning channel selection
- Up to 250 KHz sampling rate
- Programmable gain of 1,10,100,1000 for PCI-9114 HG/9114-HG
- Programmable gain of 1,2,4,8 for PCI-9114DG/9114A-DG
- Two trigger modes: software trigger & pacer trigger
- Isolated 16-CH digital output with high driving capability
- Isolated 16-CH digital input
- Compact size, half-size PCB
- Rugged DB-37 connector for analog input
- Two 20-pin connectors for digital input/output



PCI-9114DG: 32-CH, 16-bit Normal Gain DAS Card

PCI-9114HG: 32-CH, 16-bit High Gain DAS Card

PCI-9114A-DG: High Speed 32-CH, 16-bit Normal Gain DAS Card

PCI-9114A-HG: High Speed 32-CH, 16-bit High Gain DAS Card

Specifications

Analog Input (A/D)

- Converter and resolution:
 - 16-bit LTC 1605(100KS/s) for 9114
 - 16-bit LTC 1606(250KS/s) for 9114A
- Number of channels: 32 S.E./16 D.I.
- Analog signal input range: (programmable)
 - Bipolar: $\pm 10V$, $\pm 1V$, $\pm 0.1V$, $\pm 0.01V$ for PCI-9114HG/PCI-9114A-HG
 - Bipolar: $\pm 10V$, $\pm 5V$, $\pm 2.5V$, $\pm 1.25V$ for PCI-9114DG/PCI-9114A-DG
- Conversion time: 8 μsec / 3.5 μsec
- Data throughput: 100 KS/s / 250KS/s maximum for single channel
- Overvoltage protection: Continuous $\pm 35V$ maximum
- Accuracy:

GAIN= 1, 10	0.01% of FSR ± 1 LSB
GAIN= 100,1000	0.02% of FSR ± 1 LSB

- Input impedance: 10 M Ω
- Trigger mode: Software, Timer Pacer, and External trigger
- Data transfer: Polling, Interrupt
- FIFO depth: 1024 samples

Isolation Digital I/O

- Number of input channels: 16 DI
- Number of output channels: 16 DO
- Input voltage: 0-24Vdc
 - Logic H: 3~24V

• Logic L: 0~1.5V

- Input resistance: 4.7K Ω @ 0.5W
- Output type: Darlington Transistors, open emitter PNP Transistor with external power supply
- Driving capability: 350mA/ch typ. for 8-CH, single channel 500mA maximum.
- Isolation voltage: 5000 Vrms

Programmable Counter

- Device: 8254
- A/D pacer: 32-bit timer (two 16-bit counter cascaded together) with a 2 MHz clock base
- Pacer output: 0.00046 Hz~100 KHz

General Specifications

- Connectors:
 - 37-pin D-type connector for AI
 - Two 20-pin flat cable connector for DIO
- Operating temperature: 0° ~ 60° C
- Storage temperature: -20° ~ 80° C
- Humidity: 5~95%, non-condensing
- Power requirement:
 - +5 V @ 600 mA typical
 - +12 V @ 100 mA typical
- Dimension: 175 mm x 107 mm

Termination Boards

- ACLD-9188 • ACLD-9137
- DIN-37D

Ordering Information

PCI-9114DG

32-CH, 16-bit, Normal Gain 100KS/s DAS Card

PCI-9114HG

32-CH, 16-bit, High Gain 100KS/s DAS Card

PCI-9114A-DG

High Speed 250KS/s 32-CH, 16-bit Normal Gain DAS Card

PCI-9114A-HG

High Speed 250KS/s 32-CH, 16-bit High Gain DAS Card

Note: The above products are shipped with software development kit for DOS/Win-95/98/NT/2000, PCIS-LVIEW, PCIS-VEE and DAQ Creator.

Pin Assignments for the DB-37 Connector of the PCI-9114

+12V (1)	○	(20) PGND
-12V (2)	○	(21) AI31
AI15 (3)	○	(22) AI30
AI14 (4)	○	(23) AI29
AI13 (5)	○	(24) AI28
AI12 (6)	○	(25) AI27
AI11 (7)	○	(26) AI26
AI10 (8)	○	(27) AI25
AI9 (9)	○	(28) AI24
AI8 (10)	○	(29) A.GND
A.GND (11)	○	(30) AI23
AI7 (12)	○	(31) AI22
AI6 (13)	○	(32) AI21
AI5 (14)	○	(33) AI20
AI4 (15)	○	(34) AI19
AI3 (16)	○	(35) AI18
AI2 (17)	○	(36) AI17
AI1 (18)	○	(37) AI16
AI0 (19)	○	