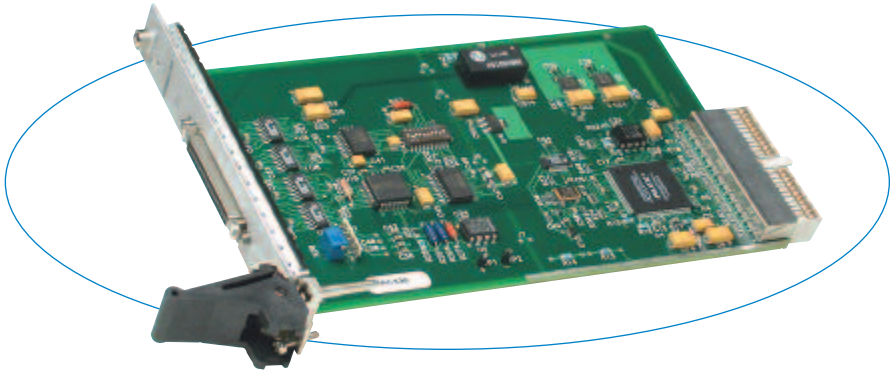
AcPC330
16-bit A/D
Analog Input



Advanced memory management techniques allow the AcPC330 to operate with minimal interruption of the A/D converter.

AcPC330 boards provide fast, high resolution A/D conversion.

The AcPC330 has many features to improve your overall system throughput rate. You can scan all channels or define a subset for more frequent sampling. Burst mode scans selected channels at the maximum conversion rate. Uniform mode performs conversions at user-defined intervals. Both modes can scan continuously, or execute a single cycle upon receiving a trigger.

"Mail box" memory allows the CPU to read the latest data in 32 storage buffer registers without interrupting the A/D converter.

Features

- 16-bit A/D converter (ADC)
- 8µS conversion time (125KHz)
- 16 differential or 32 single-ended inputs (±5V, ±10V, 0-5V, and 0-10V input ranges)
- Individual channel mailbox with one or two storage buffer registers per channel
- Programmable scan control
- Four scanning modes
- User-programmable interval timer
- External trigger input and output
- Programmable gain for individual channels
- Post-conversion interrupts

Benefits

- "Mailbox" memory eliminates scanning interruptions for optimum throughput.
- Data register indicates new and missed (overwritten) data values in the mail box.
- Programmable interrupts simplify data acquisition by providing greater control.

Specifications

Analog Input

Input configuration: 16 differential or 32 single-ended channels.

A/D resolution: 16 bits.

Input ranges: ±5V, ±10V, 0-5V, and 0-10V.

Programmable gains: 1x, 2x, 4x, 8x.

Maximum throughput rate:
Only one channel can be updated at a time.
One channel: 125KHz (8µS/conversion)
[66KHz (15µS/conversion) recommended]
16 channels (differential): 4.2KHz (240µS/16 ch)
32 channels (single-ended): 2.1KHz (480µS/32 ch).

Data sample memory: Individual channel mailbox with one or two storage buffer registers per channel

A/D triggers: External and software.

Internal timer: One user programmable timer for analog input acquisition control.

System accuracy: ±3 LSB (0.005%) typical (SW calib., gain=1, 25°C).

Data format: Straight binary or two's compliment.

Input overvoltage protection: Vss -20V to Vdd 40V with power on, -35V to 55V power off.

Common mode rejection ratio (60Hz): 96dB typical.

Channel-to-channel rejection ratio (60Hz): 96dB typical.

Environmental

Operating temperature: 0 to 70°C (E version -40 to 85°C).

Storage temperature: -55 to 100°C.

Relative humidity: 5 to 95% non-condensing.

MTBF: Consult factory.

Power: 230mA at +5V (275mA maximum).

CompactPCI bus Compliance

Meets PCI spec. V2.2 and PICMG 2.0, R3.0.

Data transfer bus: Slave with 32-bit, 16-bit, and 8-bit data transfer operation..

Interrupts (INTA#): Interrupt A is used to request an interrupt.

Plug-and-Play: The system maps the base address into the PCI bus 32-bit memory space.

Ordering Information

I/O Boards

AcPC330
Analog input board

AcPC330E
Same as AcPC330 plus extended temperature range

Software *(see software documentation for details)*

PMCSW-API-VXW
VxWorks® software support package

PCISW-API-QNX
QNX® software support package

PCISW-API-WIN
Windows® DLL Driver software package

PCISW-LINUX
Linux™ support (website download only)

Accessories *(see accessories documentation for details)*

5028-378
Termination panel, SCSI-2 connector, 50 screw terminals

5028-438
Cable, shielded, SCSI-2 connector at both ends

RedLinX™ Embedded Solutions
www.redlinx.co.za

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