**AcPC330**

16-bit A/D Analog Input

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
- “Mail box” 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)
  - 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)

- PCISW-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