

AcPC341 Simultaneous A/D Conversion Analog Input

AcPC341 boards provide fast, high resolution, simultaneous A/D conversion of eight channels.

These boards have sixteen analog inputs which are sampled as two eight-channel banks. Eight A/D converters (ADCs) permit simultaneous conversion of all eight channels in a bank. All 16 channels share two generous 512-sample memory buffers. Conversion of each bank requires only 8 μ S, and all 16 channels can be sampled in just 16 μ s.

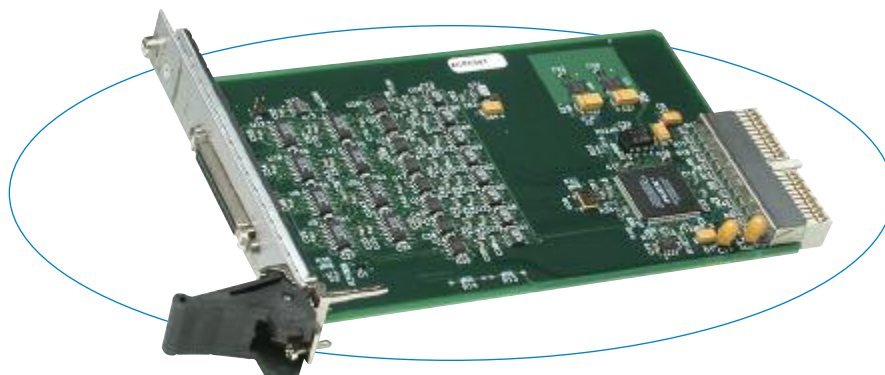
Flexible configuration options give you extensive control over the conversion process. The channels or bank to be converted, timing, scan mode, and other parameters are user-programmable. Interrupt support adds further control to interrupt upon a programmable threshold when the data in memory exceeds the set threshold.

Features

- 16 differential inputs (± 10 V DC input range)
- Eight 14-bit A/D converters with simultaneous multi-channel conversion
- 8 μ S conversion time (125KHz) for 8-channel bank
- Two 512-sample memory buffers
- Data tagging for channel identification
- Programmable conversion timer
- Programmable channel conversion control
- External trigger input and output
- Continuous and single-cycle conversion modes
- Interrupt generation for memory full threshold conditions
- Precision calibration voltages stored on-board

Benefits

- Simultaneous channel conversion and on-board memory enable megahertz throughput rates.



This board is ideal for high-speed data acquisition. A large memory buffer reduces CPU interactions for increased overall performance.

Specifications

Analog Inputs

Input channels: 16 differential.
A/D resolution: 14 bits.
Input range: ± 10 V.
Maximum throughput rate:
Eight channels can be simultaneously acquired.
One channel: 125KHz (8 μ S/conversion)
8 channels (same bank): 1MHz (8 μ S/8 channels)
16 channels (high & low banks): 1MHz (16 μ S/16 ch. at maximum 2.2K ohm source resistance).
Data sample memory: Two 512-sample memory buffers allows writing to one buffer while reading from the other.
A/D triggers: Internal timer, external, and software.
Internal conversion timer: User-programmable delay between simultaneous conversion of 8-channel banks. Maximum delay is 2.09 second interval.
System accuracy: 2.4 LSB (0.014%).
Data format: Binary two's complement.
Overvoltage protection: ± 25 V (power on), ± 40 V (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 105°C.
Relative humidity: 5 to 95% non-condensing.
MTBF: Consult factory.
Power: 265mA at +5V (320mA 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

AcPC341

Analog input board

AcPC341E

Same as AcPC341 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

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