

PMC341 Simultaneous A/D Conversion Analog Input

PMC341 modules provide fast, high resolution, simultaneous A/D conversion of eight channels.

These modules 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.

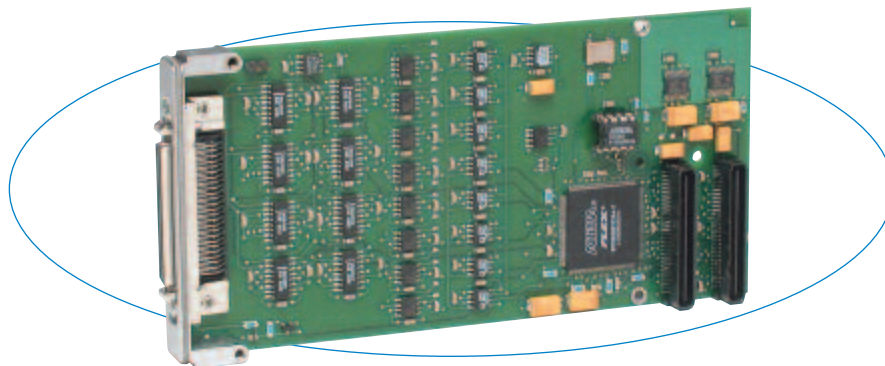
Flexible configuration options give you extensive control over the conversion process. The channels or bank to be converted, timing, scan mode, and other parameters are user-programmable. Interrupt support adds further control to interrupt upon a programmable threshold when the memory is full.

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.



The PMC341 is ideal for high-speed data acquisition. Large memory buffer reduces CPU interactions for increased overall performance.

Specifications

Analog Inputs

Input configuration: 16 differential.

A/D resolution: 14 bits.

Input range: ± 10 V.

Data sample memory: 512 sample FIFO buffer.

Max. 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).

A/D triggers: Internal timer, external, and software.

System accuracy: 2.4 LSB (0.014%).

Data format: Binary two's complement.

Input overvoltage protection: ± 25 V (power on),
 ± 40 V (power off).

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

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

PMC Compliance

Conforms to PCI Local Bus Specification, Revision 2.2 and CMC/PMC Specification, P1386.1.

Electrical/Mechanical Interface: Single-Width Module.

32-bit PCI Target: Implemented by Altera FPGA.

4K Memory Space Required: One Base Address Register.

Signaling: 5V Compliant, 3.3V Tolerant.

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

Burst Read of Memory Buffer: 3 PCI Clock Cycles per sample read.

Register Access Times: 8 PCI clock cycles, typical.

Environmental

Operating temperature: 0 to 70°C (PMC341)
or -40 to 85°C (PMC341E model)

Storage temperature: -55 to 100°C (all models).

Relative humidity: 5 to 95% non-condensing.

Power: 100mA at +5V. 15mA at +12V. -10mA at -12V.

MTBF: 2,943,878 hrs. at 25°C, MIL-HDBK-217F, notice 2

Ordering Information

PMC Modules

PMC341

14-bit A/D

PMC341E

Same as PMC341 plus extended temperature range

PMC341R

Same as PMC341, except with rear I/O connector

PMC341RE

Same as PMC341R 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

All trademarks are the property of their respective owners.