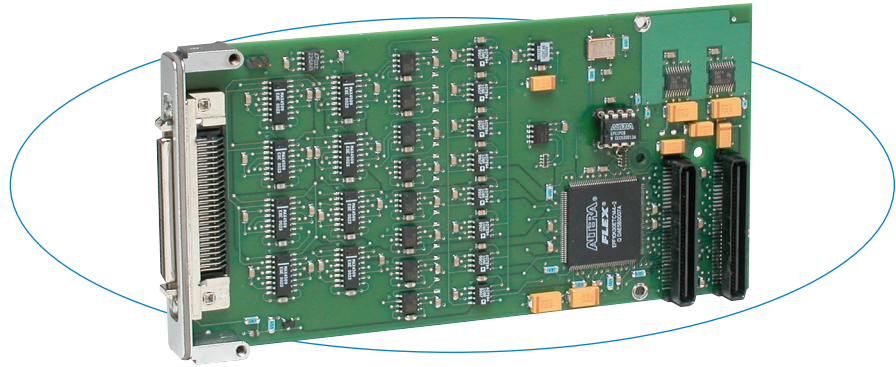


PMC341 Simultaneous A/D Conversion Analog Input



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 ($\pm 10V$ 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: $\pm 10V$.
 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: $\pm 25V$ (power on), $\pm 40V$ (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-WIN**
Windows® DLL Driver software package
- PCISW-API-LNX**
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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