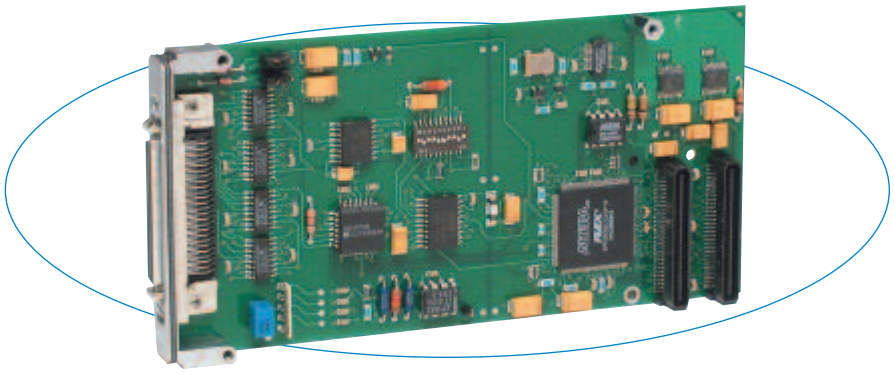
Acromag
THE LEADER IN INDUSTRIAL I/O

PMC330
16-Bit A/D
Analog Input



Advanced memory management techniques allow the PMC330 to operate with minimal interruption of the A/D converter.

PMC330 mezzanine modules provide fast, high resolution A/D conversion.

The PMC330 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 Inputs

Input configuration: 16 differential or 32 single-ended.

A/D resolution: 16 bits.

Input ranges: ±5V, ±10V*, 0-5V, and 0-10V*.
* Requires ±15V external supplies.

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

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).

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

A/D triggers: External and software.

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.

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.

Access Times: 8 PCI Clock Cycles for all registers.
To avoid Mail Box RAM read and write contention, a Mail Box read may be issued a retry termination.

Environmental

Operating temperature: 0 to 70°C (PMC330) or -40 to 85°C (PMC330E model)

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

Relative humidity: 5 to 95% non-condensing.

Power: 71mA at +5V. 14mA at +12V. 10mA at -12V.

MTBF: 1,745,521 hrs. at 25°C, MIL-HDBK-217F, notice 2

Ordering Information

PMC Modules

PMC330
32 single-ended or 16 differential inputs.

PMC330E
Same as PMC330 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

8400-287 Printed in USA 6/05