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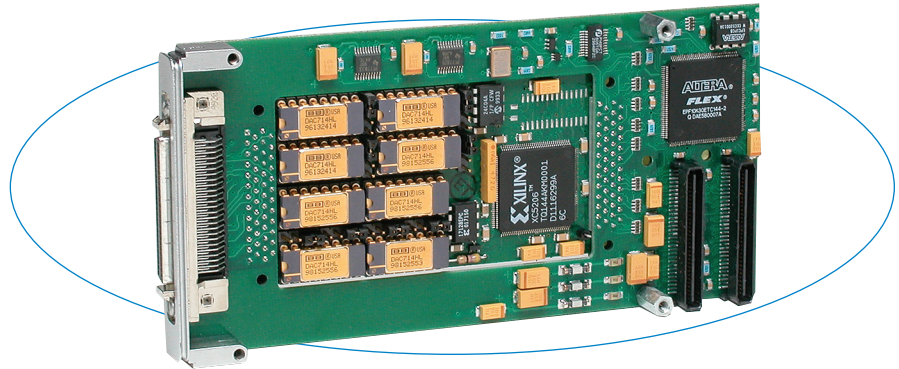
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## PMC230A-8 16-Bit D/A Analog Output



Independent D/A converters on each channel provide better performance and smoother operation.

PMC230A modules have eight 16-bit D/A converters (DACs) to provide highly-accurate analog voltage outputs. A unique two-piece board design brings the proven reliability of Acromag's Industry Pack (IP) A/D modules to a PMC format. An IP230A module is embedded on a PMC interface card that maintains maximum performance and transparent communication to the host.

Jumper-selectable output ranges give you the choice of unipolar or bipolar voltage output. And for greater flexibility, the PMC230 module accepts conversion start triggers from software commands, or from external sources for synchronization to specific events.

### Features

- 8 analog voltage output channels
- Individual 16-bit D/A converters per channel
- 10 $\mu$ s settling time (100kHz throughput)
- Three output ranges:  $\pm 5V$ ,  $\pm 10V$ , 0 to 10V (jumper-selectable)
- Two trigger modes (software or external trigger)
- External trigger output
- High load capability (5mA output current)

### Benefits

- High channel density saves card cage slots.
- Internally stored calibration coefficients ensure accuracy.
- Flexible output control allows single cycle updating of individual channels or all channels simultaneously.
- Hardware jumpers allow output range selection on an individual channel basis.

### Specifications

#### Analog Outputs

Output configuration: 8 voltage output channels.

D/A Resolution: 16 bits.

Output ranges:  $\pm 5V$ ,  $\pm 10V$ , 0 to 10V (jumper-selectable).

Maximum throughput rate:

Outputs can be updated simultaneously or individually.

One channel: 100kHz (10 $\mu$ s/conversion)

Eight channels: 100kHz (10 $\mu$ s/8 ch).

DAC programming: Immediate (transparently programmed to DAC output); simultaneous (input latches of DACs are loaded before simultaneously updating outputs).

System accuracy: 0.0061% of 20V span max. corrected error (i.e. calibrated) at 25 $^{\circ}$ C with output unloaded.

Output at reset: 0V for bipolar output, 5V for unipolar.

Output current: -5 to +5mA (maximum).

Short circuit protection: Indefinite at 25 $^{\circ}$ C.

#### PMC Compliance

Conforms to PCI Local Bus Specification, Revision 2.2 and CMC/PMC Specification, P1386.1 (mechanical height exception, see Page 102).

Electrical/Mechanical Interface: Single-Width Module.

Two-piece board design (see Page 102).

32-bit PCI Target: Implemented by Altera FPGA.

4K Memory Space Required: One Base Address Register.

Signaling: 5V Compliant, 3.3V Tolerant.

PMC Module Write Cycle: 1000ns typical measured from falling edge of FRAME# to module write complete.

PMC Module Read Cycle: 1000ns typical measured from falling edge of FRAME# to falling edge of TRDY# providing valid data.

Access Times: 1000ns for all registers.

#### Environmental

Operating temperature: 0 to 70 $^{\circ}$ C (PMC230A-8) or -40 to 85 $^{\circ}$ C (PMC230A-8E model)

Storage temperature: -55 to 100 $^{\circ}$ C (all models).

Relative humidity: 5 to 95% non-condensing.

Power: 100mA at +5V. 140mA at +12V. 225mA at -12V.

MTBF: 662,291 hrs. at 25 $^{\circ}$ C, MIL-HDBK-217F, notice 2.

### Ordering Information

#### PMC Modules

##### PMC230A-8

Eight high-resolution voltage outputs

##### PMC230A-8E

Same as PMC230A-8 plus extended temperature range

**Software** (see [software documentation](#) for details)

##### PMCSW-API-VXW

VxWorks<sup>®</sup> software support package

##### PCISW-API-WIN

Windows<sup>®</sup> DLL Driver software package

##### PCISW-LINUX

Linux<sup>®</sup> 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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