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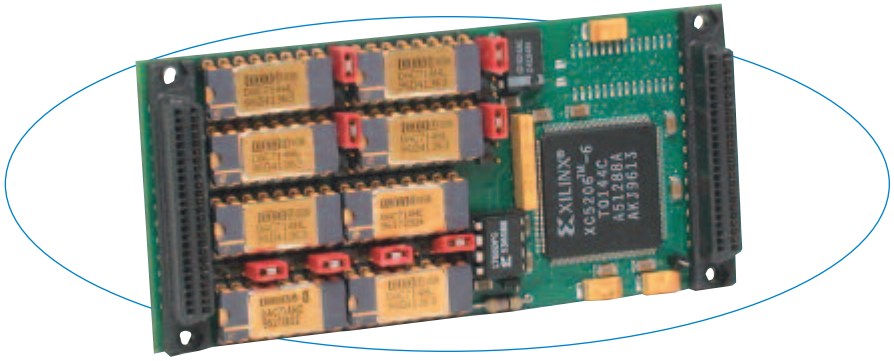
Acromag
THE LEADER IN INDUSTRIAL I/O

IP235-x 16-Bit D/A Analog Output with RAM Buffer



The IP235's RAM buffer is useful for generating continuous waveform output cycles such as sine, triangle, or square signals.

IP235 modules have a 16-bit D/A converter (DAC) to provide highly-accurate analog voltage outputs. An internal RAM buffer enhances control over the transfer of data to the DAC.

Each channel has a dedicated 2K sample RAM buffer. All channels share a global clock. A start trigger transfers digital values from the buffer to the DAC. Four modes offer several choices for the data transfer. Continuous mode simultaneously updates all the channels by cycling through the buffer until a software halt command is received. Single-cycle mode simultaneously updates all channels but only cycles through the buffer once for each start trigger.

Features

- 4 or 8 (IP235-4/8) analog voltage outputs
- Individual 16-bit D/A converters per channel
- Waveform memory (2K samples/channel)
- Global timer for all channels supporting clock rates of up to 100KHz
- Software, external, or internal timer triggers
- Interrupt capability
- External trigger output
- User-programmable interval timer
- Extended temperature option (-40 to 85°C)

Benefits

- RAM buffer provides many options and generates waveform signals.
- Internally-stored calibration coefficients ensure accuracy.
- Flexible output control allows single cycle or continuous updating of individual channels or all channels simultaneously.

Specifications

Analog Outputs

Output configuration: 4 (IP235-4/4E) or 8 (-8/8E).

D/A Resolution: 16 bits.

Output ranges: ±5V, ±10V, 0 to 10V (jumper-selectable).

Data sample memory: 2K sample RAM buffer on each channel.

Maximum throughput rate:
Outputs can be updated simultaneously or individually.
One channel: 100KHz (10µS/conversion)
Four channels (IP235-4): 100KHz (10µS/4 ch)
Eight channels (IP235-8): 100KHz (10µS/8 ch).

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

System accuracy: 0.0061% of 20V span maximum corrected error (i.e. calibrated) at 25°C with the output unloaded.

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

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

Short circuit protection: Indefinite at 25°C.

IP Compliance (ANSI/VITA 4)

Meets IP specifications per ANSI/VITA 4-1995.

IP data transfer cycle types supported:
Input/output (IOSel*), ID read (IDSel*), Interrupt select (INTsel*).

Access times (8MHz clock): 1 wait state (375nS cycle).

Environmental

Operating temperature: 0 to 70°C (IP235-4/8) or -40 to 85°C (IP235-4E/8E models).

Storage temperature: -55 to 125°C (all models).

Relative humidity: 5 to 95% non-condensing

MTBF: 815,720 hrs at 25°C, MIL-HDBK-217F, Notice 2.

Power: +5V (±5%): 250mA maximum.
±12V (±5%) from P1: 150mA maximum.

Ordering Information

Industry Pack Modules

IP235-4
Four voltage outputs with memory.

IP235-4E
Same as IP235-4 plus extended temperature range.

IP235-8
Eight voltage outputs with memory.

IP235-8E
Same as IP235-8 plus extended temperature range.

Acromag offers a wide selection of Industry Pack Carrier Cards.

Software *(see software documentation for details)*

IPSW-API-VXW
VxWorks® software support package

IPSW-API-QNX
QNX® software support package

IPSW-API-WIN
Windows® DLL driver software support package

IPSW-LINUX
Linux support (website download only)

See accessories documentation for additional information.

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