Industry Pack Modules

IP235A-8
16-Bit D/A Analog Output with RAM Buffer

IP235A-8 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
- 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: 8
- 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:
  - One channel: 100kHz (10µS/conversion)
  - Eight channels: 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.

Environmental
- Operating temperature: 0 to 70°C (IP235-8A) or -40 to 85°C (IP235A-8E models).
- Storage temperature: -55 to 125°C (all models).
- Relative humidity: 5 to 95% non-condensing
- Power: +5V (±5%) 250mA maximum.
  ±12V (±5%) from P1: 150mA maximum.

Ordering Information

Industry Pack Modules
- IP235A-8
  Eight voltage outputs with memory.
- IP235A-8E
  Same as IP235-8A plus extended temperature range.

Acromag offers a wide selection of Industry Pack Carrier Cards.

Software
- IPSW-API-VXW
  VxWorks® software support package
- IPSW-API-WIN32
  32-bit Windows® DLL driver software support package
- IPSW-API-WIN64
  64-bit Windows® DLL driver software support package
- IPSW-LINUX
  Linux™ support (website download only)

Accessories
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