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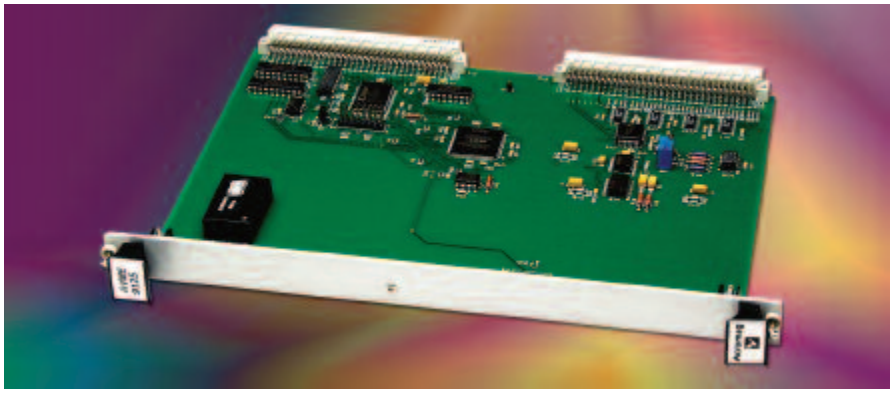
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Find the *Acromag AVME9125* at our website: *Click HERE*

AVME Series Products

Acromag's isolated digital I/O boards feature extremely high channel density to offer a very cost-effective solution for a wide variety of monitoring and control applications.



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VMEbus I/O Boards

Acromag started developing VME boards in 1985. Today, with seventeen years of experience, you can rest assured that Acromag has I/O solutions you can trust. Thousands of successful installations around the globe are a testament to the reliable operation and dependable service you can expect from Acromag.

Acromag VME boards are well-suited for COTS and industrial projects. Great effort goes into selecting high-performance parts to withstand the demands of military, aerospace, and manufacturing applications. Most models are available with extended temperature ranges for reliable operation in harsh environments. Acromag products are also designed for the long life-cycles required for OEM and defense projects.

And to simplify the implementation of Acromag I/O modules, software development tools are available. Function libraries provide example routines to integrate Acromag's I/O with your application code and establish communication with your other computer boards.

Benefits

- High channel density (up to 96 channels per board) saves money
- Isolation helps protect expensive computer equipment from damaging surges and transients
- Channel-to-channel isolation eliminates ground loops and reduces signal noise
- Rugged design and long product lifecycles are ideal for COTS applications
- Software development tools speed system integration
- One stop shopping for termination panels and cables saves time

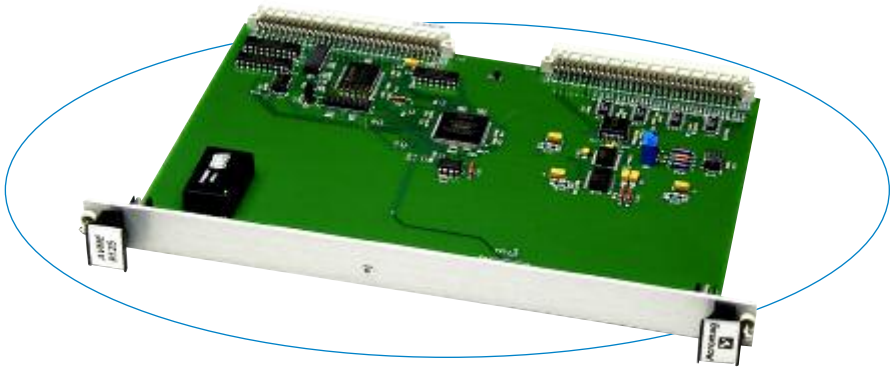
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AVME9125
16-bit A/D
Analog Input



The AVME9125 provides high-density, high-resolution A/D for a broad range of applications.

Description

These boards interface analog input signals to the VMEbus. Typical uses include applications with external signal conditioning where rapid, high-resolution A/D conversion is needed. The AVME9125 is ideal for low-cost, high-speed data collection applications. It is also the recommended replacement for Acromag's retired AVME9320 board.

Two channel selection schemes and two trigger sources offer operational flexibility and high throughput. In the individual channel mode, the input channel defined by the user undergoes an A/D conversion for each conversion trigger. The continuous scanning mode automatically increments to the next input channel after each conversion to eliminate host processing time.

Software and hardware triggers are generated directly by the user for precise synchronization with individual external events. An internal programmable timer provides self-triggering for scanning and precise interval timing without host intervention.

Features

- 16 differential input channels
- 16-bit A/D resolution
- 11.25 second conversion time (88KHz maximum)
- Real-time correction logic with calibration autozero and autospan precision voltages
- Bipolar ±10V A/D range
- Individual channel mail boxes
- Programmable control of channel scanning
  - uniform single/continuous
  - burst single/continuous
- User-programmable interval timer
- Software-programmable interrupts
- New and missed data registers
- Fault-protected input channels
- Base address jumpers

Specifications

Analog Input

Input configuration: 16 differential channels.

A/D resolution: 16 bits.

Input range: ±10V.

Input overvoltage protection: -35 to 55V power off.

Settling time (20V step): 3.5µS to 0.01%, typical.

A/D conversion time: 11.25µS maximum.

Conversion rate: 88.8KHz maximum.

Maximum throughput rate:
One channel: 11.25µS (88KHz).
16 channels : 180µS (5.55KHz).

Input noise: 1.4 LSB rms typical.

Input resistance: 100M ohms typical.

Input bias current: 1nA typical.

Common mode rejection ratio (60Hz): 90dB typical.

Channel-to-channel rejection ratio (60Hz): 90dB typical.

A/D trigger: External source and software.

No missing codes.: 15 bits ADC.

A/D integral linearity error: 1 LSB typical, 2 LSB max. ADC.

Bipolar Offset Error: 10mV maximum for 10V range.

Full scale error: 0.5V maximum.

VME Compliance

This device meets or exceeds all written VME specifications per revision C.1 dated October 1985, IEC 821-1987 and IEEE 1014-1987.

Data transfer bus: A16:D16/D08 (EO) DTB slave; supports read/modify/write cycles.

VMEbus access time: 800nS typical (all board registers); measured from the falling edge of DSx* to the falling edge of DTACK*.

Short I/O space: Base address is hardware jumper selected. Occupies 256 bytes. Responds to both address modifiers 29H & 2DH in the VMEbus short I/O space for board registers.

Interrupts: Creates I(1-7) programmable request levels D16/D08(O) interrupter. Board control & status register interrupt monitoring. Interrupt release mechanism is Release On Acknowledge (ROAK) type.

Interrupt events: Vectored interrupt on end of channel conversion or end of group of channel conversions

Environmental

Operating temperature: 0 to 70°C

Storage temperature: -25 to 85°C.

Relative humidity: 5 to 95% non-condensing.

Power: +5 Volts (5%) 450mA typical, 600mA maximum.

MTBF: Consult factory.

Ordering Information

I/O Boards

AVME9125

16 analog input channels

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Ready for COTS Military Applications

Acromag I/O boards feature many enhancements that make them well suited to the demanding requirements of defense applications.



Acromag I/O boards are commonly used in defense projects involving jets, helicopters, ships, submarines, tanks, and surveillance.

Experience

Acromag has more than 45 years of experience designing and manufacturing I/O products for rugged industrial, commercial, and military applications. Our experience gives us an edge when it comes to suppressing the hazards that plague electronic circuits when exposed to hazardous environments. You can be confident that Acromag boards have the necessary requirements to resist electrical noise, extreme temperatures, shock and vibration.

Reliability

Many steps are taken during the design and manufacturing stages to ensure reliable operation in hostile conditions.

Components are specially selected for their rugged characteristics. These parts undergo inspection and testing upon receipt from our suppliers to ensure optimal performance. Absolute adherence to static control regulations further protect the components from potential exposure to harmful electrostatic discharge (ESD).

Extensive and ongoing investments in state-of-the-art production and test equipment further enable us to manage all manufacturing and inspection procedures in-house to assure our customers the ultimate attention to detail and quality control.

In addition, many of our customers with critical applications have visited our facilities for personal quality assurance audits to verify our commitment to delivering products free of defects and bugs. We also offer a Certificate of Compliance testifying that individual products meet all performance specifications listed in the instruction manuals. A Test Data Certificate is also available to verify that units have passed extensive test procedures.

Extended Temperature Ranges

Most products are available with a choice of either commercial (0 to 70°C) or extended (-40 to 85°C) operating temperature ranges. On our product data sheets, you will also find the rated storage ranges. Only temperature-rated parts, as listed by the manufacturer, are used in the extended temperature designs. Acromag does not use internal sample testing to qualify parts for the ruggedized models.

Conformal Coating

Please contact the factory if circuit boards for your applications require conformal coating. We have the ability to apply a coating on the boards to provide a protective layer that will satisfy the military specifications you need to meet.

Extended Product Life Cycles

Great lengths are taken to accommodate the needs of our OEM and military customers that demand stable designs with long product life cycles. Our goal is to design for an expected life cycle of ten years or more.

Acromag design engineers achieve this 10-year goal by starting with careful selection of parts and the availability of second-source suppliers. When necessary, Acromag has repeatedly made lifetime buys for parts that have been discontinued to ensure that we can still supply boards for our existing customer base years into the future. And in other cases, Acromag has redesigned boards to maintain form, fit, and functional equivalency.

Managed Product End of Life

Acromag works hard to maintain close relationships and consult with our customers to provide long range notification when a product is nearing retirement. Customers are typically contacted twelve to eighteen months prior to discontinuing a model. We also strive to provide at least seven years of product support and repair services following end of life.

Although Acromag makes every effort to accurately estimate a product's end of life, it is not always possible. Constant changes in part availability is an ongoing challenge. Acromag tries to maintain generous part inventories to compensate for cyclical short-term part shortages. In addition, Acromag keeps very close relations with their major suppliers to help prevent forced product terminations due to unforeseen part shortages or discontinued components.

Product Support

Pre- and post-sales support is different at Acromag. It starts with direct phone access to a friendly customer service representative instead of an automated attendant. Technical staff members are very knowledgeable, many with more than fifteen years of experience, to help you select products or troubleshoot your application. If necessary, we'll put you in touch with the board designer or software programmer in order to solve your problem.

Software Support

You'll find that Acromag boards are well supported with software development tools for the major operating systems. Software packages are available for VxWorks®, QNX®, Windows®32 DLL, and Linux®.

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