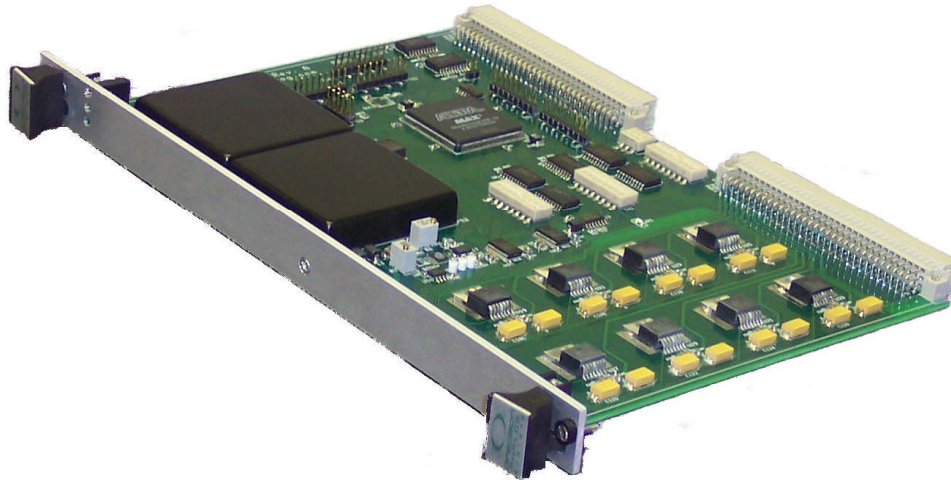


PAS 9912/AO

8 Channel High Power VME Analog Output Card



GENERAL DESCRIPTION

The **PAS 9912/AO** provides eight, twelve bit high power analog voltage output channels on a 6U VMEbus card. Two, quad high speed voltage output DACs, with 10 uSec settling times provide a total of eight analog output channels. Eight high-power operational amplifiers buffer the DAC output signals and provide a gain of 1.5 or 2.5 as an ordering option. Voltage output signals are available on the a and c rows of the P2 connector.

Four analog output ranges are available, under program control, allowing the card's output voltage to be tailored to your application. Bipolar ranges from +/- 15 Volts to +/- 7.5 Volts and unipolar ranges from 0 to 15 Volts to 0 to 7.5 Volts are supported on one version of the card. The 25 Volt version provides ranges of +/- 25 Volts, +/- 12.5 Volts; 0 to 25 Volts and 0 to 12.5 Volts. All output ranges provide a minimum of 40 milliamps of output current.

VME systems with A16, A24, or A32 addressing are supported, and data writes of 16 or 32 bits can be used. DIP switches configure the width of the address bus. Data bus width is specified by the instruction type.

External synchronization signals can be connected to the P2 connector, if required.

Additional features include board identifier registers, control and status register, and DAC loop back registers.



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Electrical Specifications

Number of Channels	8 Analog Outputs
DAC Resolution	12 bits
Output Voltage Ranges (15 volt version)	+/- 15 Volts, +/- 7.5 Volts 0 to 15 Volts, 0 to 7.5 Volts
Output Voltage Ranges (25 volt version)	+/- 25 Volts, +/- 12.5 Volts 0 to 25 Volts, 0 to 12.5 Volts
Output Current	+/- 40 mAmps (min)
Slew Rate	2.2 Volts uSec
Settling Time	10 uSec (typ) to 0.01%
Integral Nonlinearity	+/- 1 LSB (max)
Differential Nonlinearity	+/- 1 LSB (max)
Zero Scale Error	+/- 2 LSB
Full Scale Error	+/- 4 LSB
Card Power Requirements	5 Volts @ 1.5 Amp, (typ)

Additional Features

VME Interface: A32, A24, A16; D32, D16 slave, no interrupts

Data Format: Offset binary or two's compliment, software selectable

Data Read-Back: DAC's have digital read-back registers

Long-Word Write: Two DAC's can be updated with a single VME long-word

Simultaneous Update: Software or external sync updates DAC's simultaneously

Reset Valve: DAC's reset to bipolar zero during power up reset

Calibration: All DAC's are calibrated with a precision on-board voltage reference

Status Indicators: Pass, Fail, and Board Access LED's on front panel

Board Identifier: VME ID PAS 9912/AO A0, programmed in FPGA

DAC Power Supply: On board +/- 15 Volt DC to DC converter

Power Amp Supply: On board +/- 30 Volt DC to DC converter

Environmental Specifications

Operating Temperature Range	-20 to 60 degrees C.
Storage Temperature Range	-20 to 85 degrees C.
Relative Humidity Range	20% to 80%, non-condensing

Physical Specifications

Dimensions	233mm x 160mm, 6U x 160 VME form factor
Weight	16 oz. (typ)
Connectors	2 ea. 96 position, (VME bus connectors) Analog Outputs terminate on the a and c row of P2



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