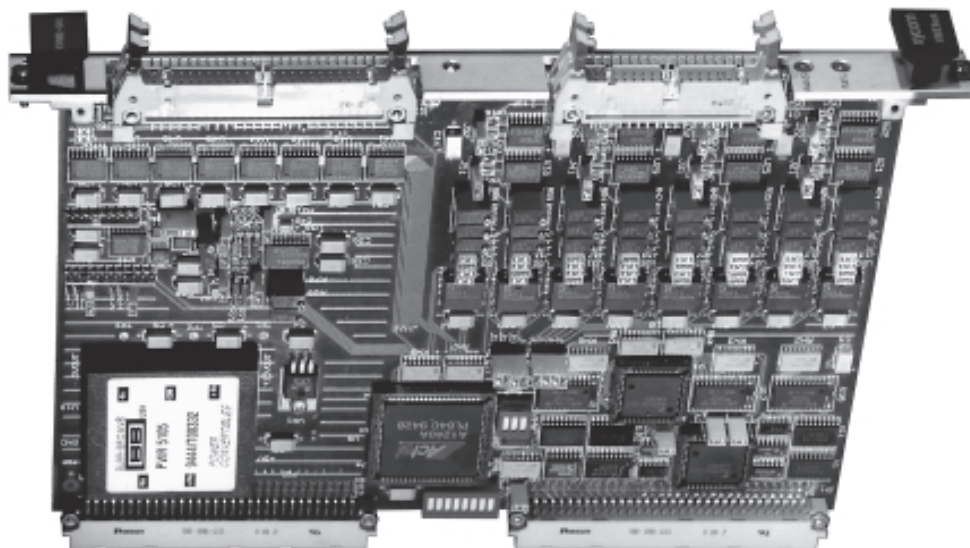


XVME-542 Analog Input/Output Module



Features

- 64 single-ended or 32 differential 16-bit input channels
- Eight 12-bit analog output channels
- 100 KHz throughput in single-channel mode
- 0.003% FSR accuracy in single-channel mode
- Easy-to-use autoscanning mode
- Software-programmable individual input gains
- Programmable interrupt timer
- Simultaneous output mode

Applications

- Data acquisition
- Process control
- Pressure and temperature sensing
- Machine control

Overview

The XVME-542 Analog Input/Output Module is a powerful VMEbus-compatible I/O module that can perform 16-bit A/D and 12-bit D/A conversions.

The XVME-542 contains 64 single-ended, 32 differential, or 64 pseudo-differential analog input channels. Input channels can be programmed to operate in one of five operating modes: random channel, sequential channel, single-channel, external-trigger, or autoscanning. Autoscanning may be performed across 8, 16, 32 or 64 channels. Individual channel gains are software-programmable within one of three jumper-selected ranges.

The XVME-542 also contains eight analog output channels. These output channels can be configured for either voltage or current outputs. Transparent and simultaneous channel update modes are supported.

The XVME-542 is pinout-compatible with the XVME-540 Analog Input/Output Module, while offering higher resolution, speed and channel count.

Hardware Specifications

Analog Outputs

Number of Channels 8

Accuracy

Resolution 12 bits
Overall error $\pm 1/4$ LSB
Differential linearity $\pm 1/2$ LSB

Voltage Output Characteristics

Ranges 0-5V, 0-10V, ± 2.5 V, ± 5 V, ± 10 V
Output current 5 mA max.
Settling time 4 μ sec
Offset T.C. 10 ppm/ $^{\circ}$ C
Gain T.C. 20 ppm/ $^{\circ}$ C

Current Loop Characteristics

Range 4-20mA, non-isolated
Compliance voltage .2 V min.; 10.5 V max.
Settling time 80 μ sec
Load resistance range 50-525 ohms
Offset T.C. 30 ppm/ $^{\circ}$ C
Gain T.C. 50 ppm/ $^{\circ}$ C

Digital Input Coding OBN, CTC

Analog Inputs

Resolution 16 bits

Accuracy

Single-channel Mode .003% FSR
All other modes .006% FSR

Speed

Conversion time 10 μ sec
Settling time 16 μ sec

Throughput

Single-channel mode 100 KHz
Autoscanning mode 62.5 KHz
All other modes 38.5 KHz

Number of Channels

Single-ended 64
Differential 32
Pseudo-differential 64

A/D Input Full Scale Voltage Ranges ($G=1$)

Unipolar 0-5 V, 0-10 V
Bipolar ± 5 V, ± 10 V

Power Requirements

Voltage outputs 5 V, $\pm 5\%$, 1.8 A typ. with voltage outputs at full scale
Current outputs 5 V, $\pm 5\%$, 2.75 A typ. with current outputs at full scale

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Programmable Gain

Range 1 1, 2, 5, or 10
Range 2 4, 8, 20, or 40
Range 3 10, 20, 50, or 100

Maximum Input Voltage

Power on 44 V
Power off 30 V

Input Impedance

18Mohm, min.

Bias Current

± 200 pA, max.

Input Capacitance

100 pF, max.

Operating Common Mode Voltage

-11 V/+13 V

External Trigger to Sample

26 μ sec

Environmental Specifications

Temperature

Operating 0 $^{\circ}$ to 65 $^{\circ}$ C (32 $^{\circ}$ to 149 $^{\circ}$ F)
Non-operating -40 $^{\circ}$ to 85 $^{\circ}$ C (-40 $^{\circ}$ to 185 $^{\circ}$ F)

Humidity

20 to 80% RH, non-condensing

Altitude

Operating Sea level to 10,000 ft. (3048m)
Non-operating Sea level to 40,000 ft. (15240m)

Vibration

Operating 5 to 2,000 Hz
.015" peak-to-peak displacement
2.5g (max.) acceleration
Non-operating 5 to 2,000 Hz
.030" peak-to-peak displacement
5.0 g (max.) acceleration

Shock

Operating 30 g peak acceleration,
11 msec duration
Non-operating 50 g peak acceleration
11 msec duration

VMEbus Compliance

A24/16:D16 DTB Slave
AM Codes 29, 2D, 39, 3D
BGXIN hardwired to BGXOUT
I(1)-I(7)(STAT)(Programmable Vector)
Conforms to XycomVME Standard I/O Architecture

Warranty

The XVME-542 carries a two-year warranty.

Ordering Information

XVME-542: 64 SE/32 DI/64 PDI Channel Analog Input,
8 Channel Analog Output

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