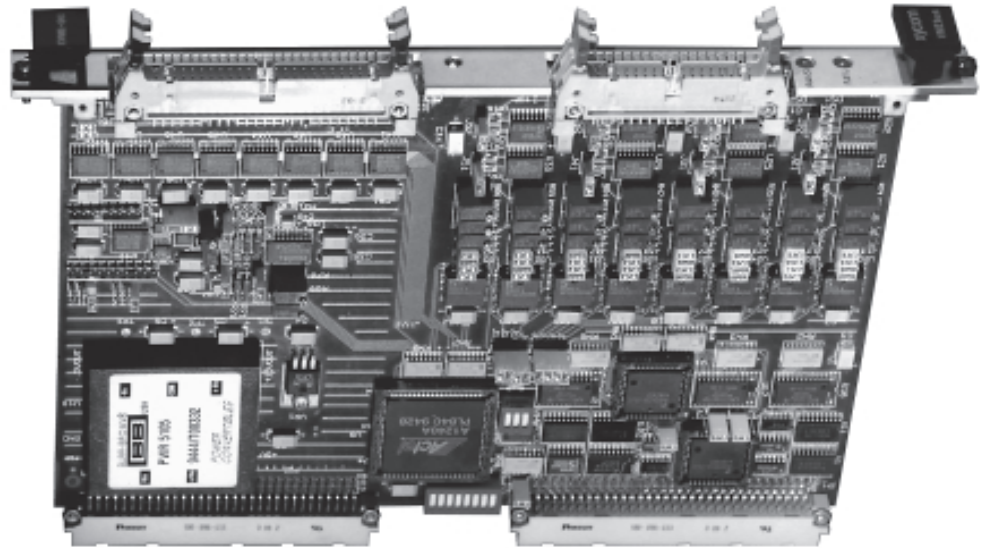


XVME-542

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

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)
Nonoperating	-40 $^{\circ}$ to 85 $^{\circ}$ C (-40 $^{\circ}$ to 185 $^{\circ}$ F)

Humidity

20 to 80% RH, noncondensing

Altitude

Operating	Sea level to 10,000 ft. (3048m)
Nonoperating	Sea level to 40,000 ft. (15240m)

Vibration

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

Shock

Operating	30 g peak acceleration, 11 msec duration
Nonoperating	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 Xycom Automation 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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