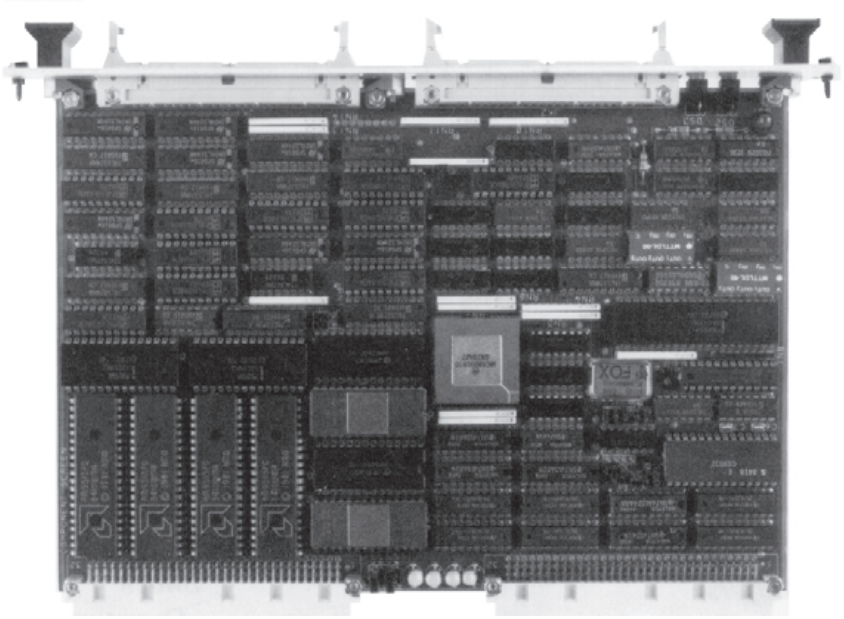
XVME-230 Intelligent Counter Module



Features

- 10 MHz 68000 CPU
- 16 independent counting channels
- Counting rates up to 5 MHz
- Firmware-selected functions
- Measurement
  - Period
  - Frequency
  - Pulse width
  - Position
- Control
  - Stepper motor
  - Duty cycle
- Utility
  - Frequency output
  - One-shot output
  - Frequency division
  - Periodic interrupt

Applications

- Translators for stepper motors
- Flow meters (turbine type)
- Quadrature encoders
- Voltage-to-frequency converters
- Voltage-to-pulse width converters
- Heaters

Overview

The XVME-230 Intelligent Counter Module is a VMEbus-compatible intelligent I/O module which provides a variety of high-performance, high-level counting functions. The module's architecture features Xycom Automation's intelligent I/O kernel which can significantly enhance system performance by itself handling many time-consuming functions that would otherwise be performed by the host processor. This on-board intelligence also gives the XVME-230 exceptional measurement and stepper motor control performance.

Many industrial applications require that time-varying waveforms be either measured or generated. The XVME-230 module is capable of handling many of these measurement functions simultaneously. The module contains four programmable counting circuits. Each circuit can handle four CLOCK inputs and four GATE inputs, allowing as many as 16 separate counting functions to operate at once.

Hardware Specifications

System Time Base

Frequency	5 MHz
Accuracy/Stability	±.005%

Event Counting

Circuit input range	Up to 5 MHz
Count range returned	Up to 2^{16} or up to 2^{32}

Frequency Measurement

Circuit input range	Up to 5 MHz
Accuracy ranges:	
10 Hz to 1 KHz	1.0%
1 KHz to 5MHz	0.15%

Power Requirements

+5 V ±5%, 4.6 A typical, 5.2 A maximum

Input Buffers

Low-level input current	-200 uA
High-level input current	20 uA

Output Buffers

Low-level output current	24 mA
High-level output current	-15 mA

Position Measurement

SIN or COS input range	Up to 500 KHz
Accuracy	±1/4 wave

Stepper Motor Control

Maximum step rate	65535 Hz
Accuracy ranges:	
1 to 1000 Hz	.025%
1000 to 65535 Hz	1.0%

Period Measurement

Circuit input range	850 sec to 500 nsec
Accuracy ranges:	
20 usec to 819.2 usec	1.0%
819.2 usec to 858 sec	.025%

Pulse-width Modulation

Circuit output range	Up to 5 KHz
Duty cycle accuracy	.01%

Environmental Specifications

Temperature

Operating	0º to 28º C (32º to 82º F) 0º to 64º C (32º to 147º F)
Nonoperating	-40º to 85º C (-40º to 185º F)

Humidity 20% to 90% RH, non-condensing

Altitude

Operating	Sea level to 10,000 ft. (3048 m)
Nonoperating	Sea level to 40,000 ft (12192 m)

Vibration 5 to 2000 Hz

Operating	.015" (.38 mm) peak-to-peak displacement 2.5 g (maximum) acceleration
Nonoperating	.030" (.76 mm) peak-to-peak displacement 5.0 g (maximum) acceleration

Shock

Operating	30 g peak acceleration 11 msec duration
Nonoperating	50 g peak acceleration, 11 msec duration

VMEbus Compliance

- Complies with VMEbus Specification, IEEE 1014-1987 Rev. C1
- A16:D16/D08(EO) DTB Slave
- Interrupter I(1)-I(7)(DYN), ROAK
- Interrupt vector D08(O)(DYN)
- Utility signals: SYSFAIL
- Conforms to Xycom Automation Standard I/O Architecture
- Form Factor: DOUBLE
  233.35 mm × 160 mm (9.2" × 6.3")

Warranty Information

The XVME-230 carries a two-year parts and labor warranty.

Ordering Information

XVME-230	Intelligent Counter Module

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