

The V207 is a single-width, C-size, register-based, VXIbus module that provides high-speed, high-resolution, analog-to-digital conversion.

APPLICATIONS

Automotive body engineering tests
Automotive powertrain testing
Automotive safety tests
Shock/vibration tests
Rocket engine testing
Wind tunnel data acquisition
Satellite testing

V207

16-bit, 500,000 Sample/s ADC Subsystem



This ADC supports 256 MUX-bus channels of signal conditioning

FEATURES

- 500 ksamples/s, aggregate sample rate
- 16-bit resolution and differential inputs
- Incorporates MUX-bus™ expandable to 256 channels and optional Digi-bus™ and requires no intermodule cabling
- Fully programmable sampling and triggering with separate limit check on each channel
- Precision on-board reference for end-to-end calibration
- Optional 1, 4 or 16 Mbyte memory

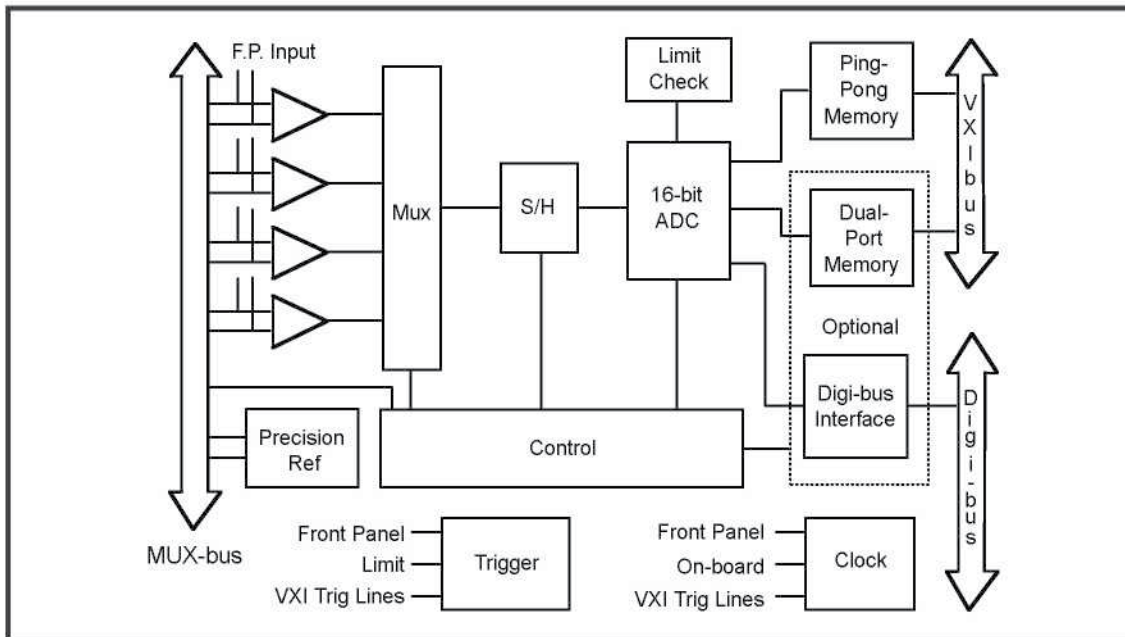
GENERAL DESCRIPTION

The V207 is a single-width, C-size, register-based, VXIbus module that provides high-speed, high-resolution, analog-to-digital conversion. This module is intended for use with the Kinetic Systems line of VXIbus signal conditioning modules that incorporate the analog MUX-bus™ (e.g., Models V246, V241, V252, etc.), allowing extremely flexible system configurations without the need for intermodule cabling.

The V207 provides four instrumentation amplifier inputs, allowing high data throughput even with a large number of input channels. Using the appropriate signal conditioning modules, up to 256 channels can be converted with each channel having its own limit-checking value. Up to 4 preconditioned signals can be monitored by the V207 without any signal conditioning modules.

This product provides a high degree of flexibility in configuring an analog sampling system. With the optional multibuffer memory, data can be taken at high sample rates with conventional controllers. If the Digi-bus™ option is used, the converted data can be forwarded to the V165 Digital Signal Processor or other modules supporting this protocol.

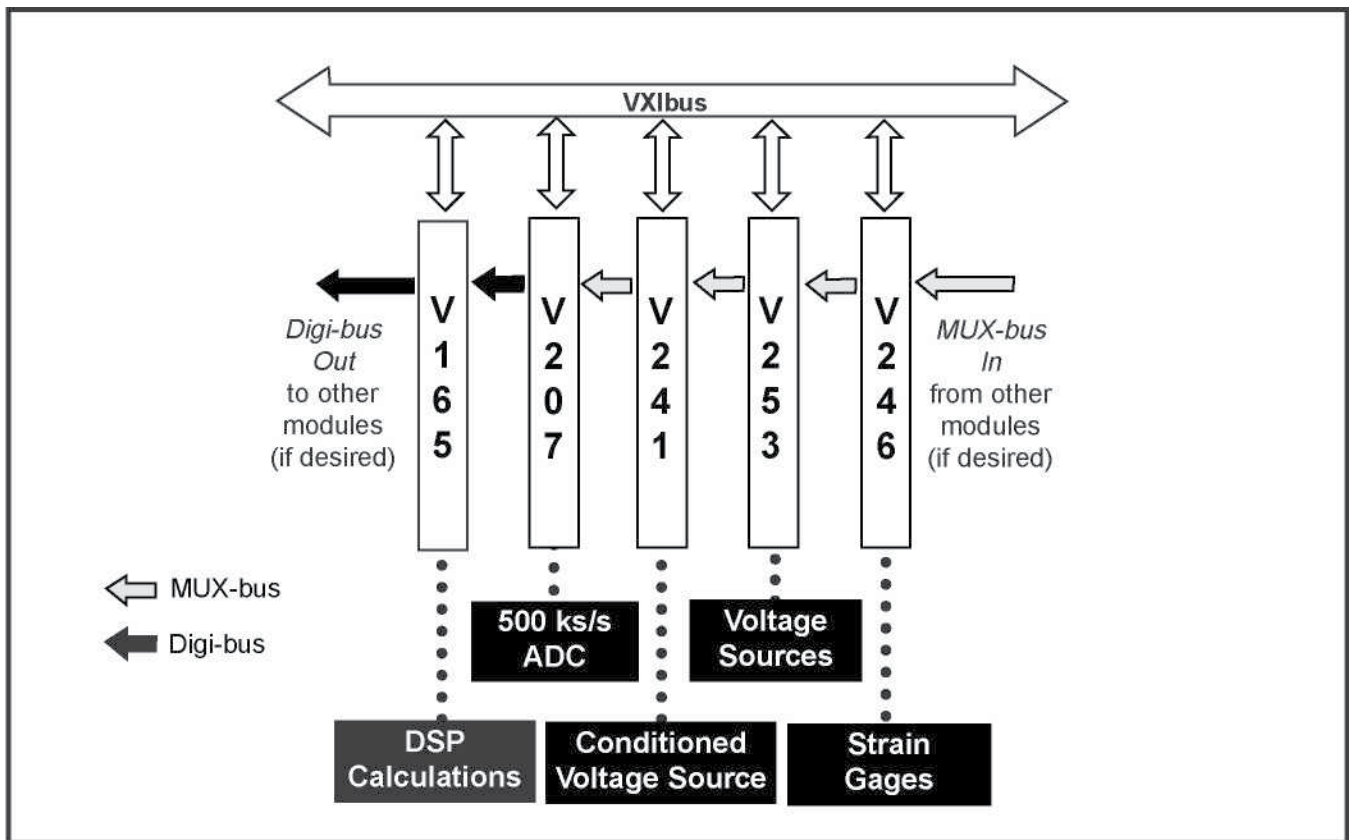
The V207 supports both static and dynamic configuration. It may be accessed using A32/A16, D32/D16 data transfers.



Item	Specification
Input Channels Number Source	4, expandable to 256 via MUX-bus 4 on front panel or MUX-bus on P2 connector
Analog Signal Input Type	Differential
Analog Input Range	±10.24 V
Input Impedance	Greater than 20 MΩ
Large Signal Analog Bandwidth (-3 dB)	Greater than 100 kHz
Resolution	16 bits, monotonic over operating temperature range
DC Accuracy Differential non-linearity Integral linearity No missing codes	0.006% of FSR 14 bits Guaranteed
Dynamic Performance Maximum conversion rate Crosstalk Total harmonic distortion	500,000 sample/second -90 dB -90dB(@100kHz)

Sample Clock Internal source Frequency choices External sources Duty cycle Backplane source	On board, crystal controlled 12 steps from 100 Hz to 500 kHz (1, 2, 5, ... sequence) TTL signal to 500 kHz 45 to 55% 1 of 8 trigger lines on VXIbus P2 connector
External Trigger Source Minimum value	Negative-going TTL signal 50 ns
Limit Checking Resolution Maximum value	Level, \pm slope 8 bits $\pm 10.16V$
Calibration	Precision 10 V reference on board, bussed to adjacent signal conditioning modules via MUX-bus for end-to-end calibration
Connector Type	Front panel BNCs and SMBs
Power Requirements +5V -5.2 V +24 V -24 V	3.2 A (without multibuffer), 4.65 A (with multibuffer) 40 mA 130 mA 130 mA
Environmental and Mechanical Temperature range Operational Storage Relative humidity Cooling requirements Dimensions Front-panel potential	0°C to +50°C -25°C to +75°C 0 to 85%, non-condensing to 40°C 10CFM 340 mm x 233.35 mm x 30.48 mm (C-sized VXIbus) Chassis ground

A Typical Mux-bus Configuration (showing the optional Digi-bus connection)





The V207-ZD23 and -ZD33 options include multibuffers with pre-trigger capability. These buffers can be used in a two-port fashion, allowing one buffer segment to be filling while another segment is being read, maximizing system throughput. In addition, these buffers, under software control, can be used as circular memories for transient capture. In this mode the buffer size as well as the number of post-trigger samples can be selected.

RELATED PRODUCTS

Model 5919-Z1A Connector—SMB, Cable-type

ORDERING INFORMATION

MODEL	DESCRIPTION
V207-ZA13	16-bit, 500,000 Sample/second ADC Subsystem
V207-ZD23	16-bit,500,000 Sample/second ADC Subsystem with 4 Mbyte Multibuffer with Pre-Trigger
V207-ZD33	16-bit,500,000 Sample/second ADC Subsystem with 16 Mbyte Multibuffer with Pre-Trigger
V207-0001	Digi-bus factory upgrade
V207-0003	4 Mbyte Memory Buffer factory upgrade
V207-0004	16 Mbyte Memory Buffer factory upgrade
Note: The V207-ZB13 and V207-ZB23 are available for software compatibility in existing systems. The V207-ZD23 and the V207-ZD33 should be used for new applications which require a multibuffer.	

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