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Find the *DynamicSignals / Kinetic Systems V253-ZCC1* at our website: *Click HERE*

V253

16-channel, Programmable Gain Analog Filter

The V253 is a single-width, C-size, register-based, VXIbus module that contains 16 channels of programmable-frequency, low-pass filtering.

Each differential input signal is received by a programmable gain instrumentation amplifier which provides typically -120 dB of common-mode rejection



Provides programmable cutoff frequencies with 6-pole roll-off

APPLICATIONS

Shock/vibration tests
Rocket engine testing
Wind tunnel data acquisition

FEATURES

- 16 differential channels
- Programmable gain on all channels
- Optional 6-pole, low-pass filter with program-selectable cutoff frequency: 20, 200,1000, 2000 Hz; or 20 kHz bypass
- Optional simultaneous sampling
- Output available at front panel or MUX-bus™

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GENERAL DESCRIPTION

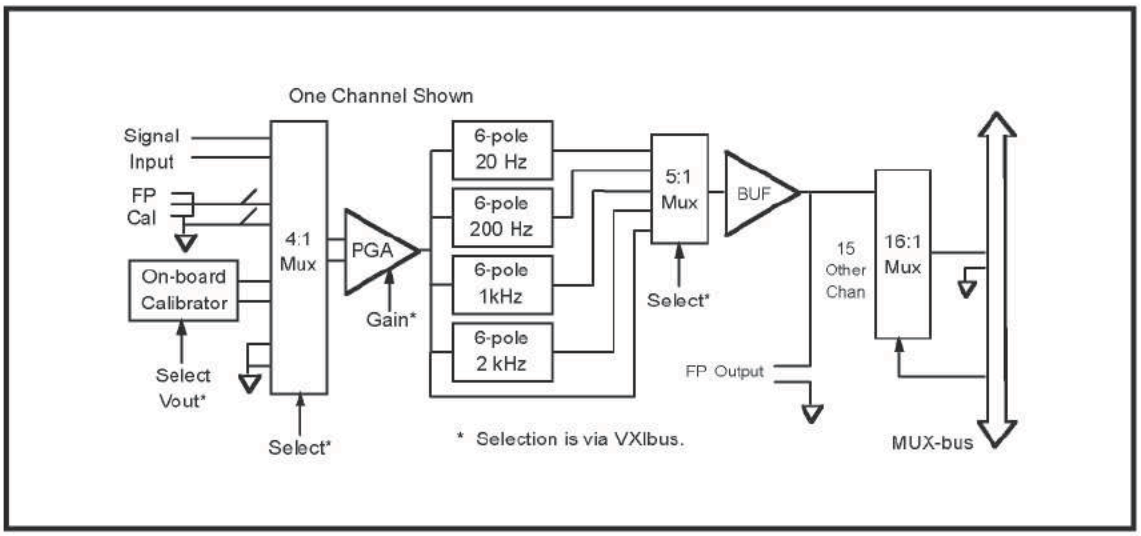
The V253 is a single-width, C-size, register-based, VXIbus module that contains 16 channels of programmable-frequency, low-pass filtering. Each differential input signal is received by a programmable gain instrumentation amplifier which provides typically -120 dB of common-mode rejection. Gains of 1, 2, 5, and 10 with multipliers of 1, 10, and 100 are programmable on a channel-by-channel basis.

Module options provide low-pass Bessel or Chebyshev filters for all channels. Standard cutoff frequencies of 20 Hz, 200 Hz, 1 kHz, and 2 kHz are programmable on a channel-by-channel basis or may be bypassed. Please consult the factory regarding the availability of other cutoff frequencies by special order. These filters are also suitable for eliminating extraneous signals (such as 60 Hz noise) or for anti-aliasing.

This filter module is also available with an optional sample/hold amplifier per channel. This option provides for simultaneous sampling of all channels by using the VXIbus trigger lines. Input and output signals appear at the V253 front panel through 68-contact High Density connectors. The differential input signals are brought in via one of these connectors and the filtered output pairs use a second connector. The output signals are also available as four multiplexed channels on the VXI Local Bus, using the KineticSystems MUX-bus™ protocol for the V207 or V208 host ADC.

Calibration inputs are provided via the front panel connector, a mainframe reference from the MUX-bus, or from an on-board reference. A removable termination housing is available for convenient I/O wiring.

The V253 supports both static and dynamic configuration. It may be accessed using A24/A16, D16 data transfers.



Item	Specification
Inputs Number of channels Impedance Input protection	 16 differential input and output 20 MΩ minimum, >100 MΩ typical To ±35 V, continuous
Gain Ranges	1, 2, 5, 10, 20, 50, 100, 200, 500, 1000
Frequency Response Filter type Cutoff frequencies	 6-pole, Bessel or Chebyshev 20 Hz, 200 Hz, 1 kHz, 2 kHz; programmable The filter may be bypassed for an extended frequency response to a -3 dB point of 20 kHz.
Gain/Offset Accuracy	(after automatic calibration) Gain — Accuracy 1 — ±(200 µV + 0.002% of reading) 2 — ±(200 µV + 0.002% of reading) 10 — ±(100 µV + 0.002% of reading) 500 — ±(5 µV + 0.01% of reading) 1000 — ±(5 µV + 0.01% of reading)
Gain Stability	Better than 20 ppm/°C (typical)
Offset Voltage Stability	Less than 2 µV/°C RTI at a gain of 1000
Noise	Less than 5 µV RMS at a gain of 1000
Linearity	±0.003% FSR maximum
Outputs Output range Output current Output resistance	 ±10V 5 mA maximum 100 Ω maximum
I/O Connector	68P High Density (input) 68S High Density (output)
Power Requirements	ZAA1 / ZAB1 / ZAC1 / ZBA1 ZDA1 / ZBB1 ZDB1 / ZBC1 ZDC1 / ZCA1 ZEA1 / ZCB1 ZEB1 / ZCC1 ZEC1
+5V	2.4 A / 2.4 A / 2.4 A / 2.4 A / 2.4 A / 2.4 A / 2.4 A / 2.4 A / 2.4 A
+24 V	420 mA / 500 mA / 610mA / 560 mA / 570 mA / 680 mA / 560 mA / 660 mA / 760 mA
-24 V	420 mA / 540 mA / 630 mA / 620 mA / 610 mA / 780 mA / 620 mA / 700 mA / 780 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 10 CFM 340 mm x 233.35 mm x 30.48 mm (C-size VXIbus) Chassis ground

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RELATED PRODUCTS

Model V207	16-bit, 500,000 Sample/second ADC Subsystem
Model V208	16-bit, 100,000 Sample/second ADC Subsystem
Model 5868-Axyz	Cable—68P High Density to Unterminated
Model 5868-Bxyz	Cable—68S High Density to Unterminated
Model 5868-Cxyz	Cable—68P High Density to 68P High Density (V253 output to V765/V792)
Model 5868-Dxyz	Cable—68S High Density to 68P High Density (V765/V792-ZA11 to V253 input)
Model 5868-Exyz	Cable—68S High Density to 68S High Density
Model 5868-Qxyz	Cable—68S High Density to 68P High Density (V792-ZB11 to V253 input)
Model V752-ZA11	Termination Assembly for V253
Model V752-ZC11	Isothermal Termination Assembly for V253
Model V765-ZA11	Rack-mount Termination Panel
Model V792-ZA11	Rack-mount Isothermal Termination Panel (Use 5868-Dxyz cable)
Model V792-ZB11	Rack-mount Isothermal Termination Panel (Use 5868-Qxyz cable)

ORDERING INFORMATION

MODEL	DESCRIPTION
V253-Zxy1	16-channel Programmable Gain and Filter x: A = no filters B = 8-channel filters, Bessel C = 16-channel filters, Bessel D = 8-channel filters, Chebyshev E = 16-channel filters, Chebyshev y: A = no simultaneous sampling B = 8-channel simultaneous sampling C = 16-channel simultaneous sampling
Example: V253-ZCC1 would be a 16-channel Programmable Gain and Filter module with 16-channels of Bessel filtering and 16-channels of simultaneous sampling.	

Updated October 24, 2005

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