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Find the *DynamicSignals / Kinetic Systems V252-ZB11* at our website: *Click HERE*

V252

8 or 16-channel, 8-pole Analog Filter

The V252 is a single-width, C-size, register-based, VXIbus module that contains 8 or 16 channels of fixed-frequency, low-pass filtering.

Each differential input signal is received by an instrumentation amplifier which provides a high common mode rejection ratio.



Provides high filter roll-off for excellent anti-alias filtering

APPLICATIONS

Shock/vibration tests
Rocket engine testing
Wind tunnel data acquisition

FEATURES

- 8 or 16 differential channels
- 8-pole low-pass filters with plug-in headers provided by factory option: 10 Hz to 100 kHz in a 1,2,5,.. progression
- Optional programmable gain per channel
- Optional simultaneous sampling
- Output available at front panel or MUX-bus™

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GENERAL DESCRIPTION

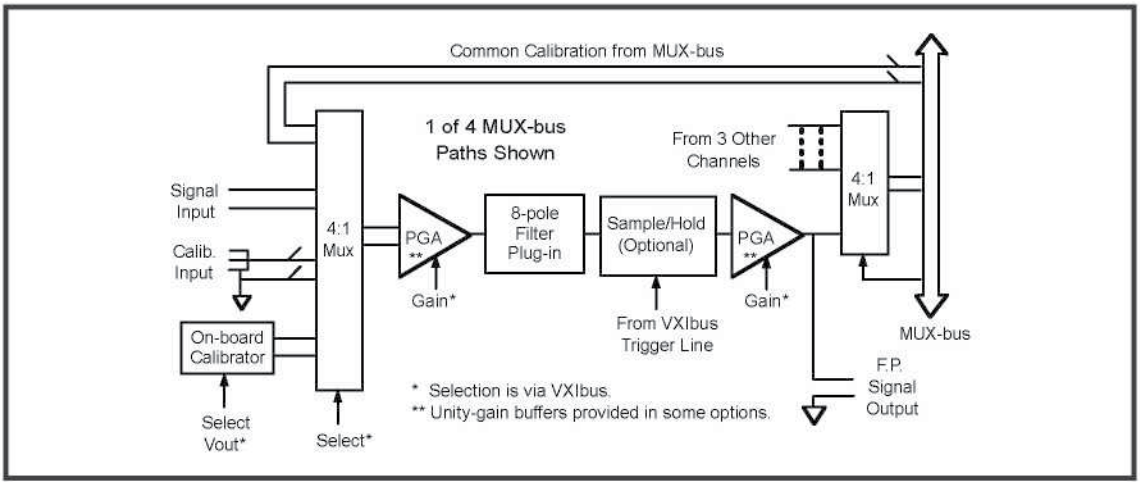
The V252 is a single-width, C-size, register-based, VXIbus module that contains 8 or 16 channels of fixed-frequency, low-pass filtering. Each differential input signal is received by an instrumentation amplifier which provides a high common mode rejection ratio. The V252-ZA12 and -ZC12 options provide filtering at unity gain. Pre-filter gains of 1, 10, and 100 as well as post-filter gains of 0.5, 1, 2, 5, and 10 are provided on the V252-ZB12 and -ZD12 options. The selection of gain is programmable on a channel-by-channel basis.

Eight-pole, low-pass, Bessel, Butterworth, Elliptic, or Constant-delay filters may be selected for each channel. This module is capable of providing filter cutoff frequencies from 10 Hz to 100 kHz. Cutoff frequencies are established by plug-in filter headers. These headers must be ordered separately. Standard headers provide nominal cutoff frequencies from 10 Hz to 100 kHz in a 1, 2, 5, ... progression. Please consult the factory regarding the availability of other cutoff frequencies by special order.

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 VXI trigger lines. Input and output signals appear at the V252 front panel on 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 for the V207 or V208 ADC using the Kinetic Systems MUX-bus™ protocol.

Calibration inputs are provided via a host ADC reference from the VXI Local Bus or from an on-board reference. The calibration signals may be selectively placed on any channel. A Calibration Register is used to select the desired channel.

The V252 supports both static and dynamic configuration. It may by accessed using A24/A16, D16 data transfers.



General	
Number of channels	8 or 16 differential input
Gain ranges (-ZB12 and -ZD12 options)	0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000
Standard cutoff frequencies	10 Hz, 20 Hz, 50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 2 kHz, 5 kHz, 10 kHz, 20 kHz, 50 kHz, and 100 kHz
Cutoff frequency accuracy	±1%
Gain match	±0.3 dB maximum at fc
Phase match	±0.2 dB maximum, dc to 0.8 fc ±3.0° maximum at fc ±2.0° maximum, dc to 0.8 fc
Passband ripple (typical)	Bessel, Butterworth: 0.0 dB Elliptic: 0.035 dB Constant Delay: 0.15 dB
Input	
Input range	Differential: ±10 V Common mode: ±10 V
Input protection	±35 V continuous
Input impedance	20 MΩ minimum
Transfer Characteristics	
Linearity error	±0.005% FSR maximum
Initial accuracy	After automatic calibration using the on-board reference: G=1to5 ±(50 µV +0.02% of reading) G=10 to 50 ±(50 µV + 0.03% of reading) G=100 to 1000 ±(20 µV + 0.1% of reading)
Offset stability, RTI	2 uV/°C maximum at G=500
Gain stability	20 ppm/°C maximum
Bandwidth	G=1 to 100 200 kHz G=200 to1000 20 kHz Sample/Hold Options 50 kHz
Common mode rejection	-100 dB typical, -80 dB minimum
Noise, RTI	5 µV RMS maximum at G=500
Channel-to-channel crosstalk	-90 dB minimum at fc
Output	
Output range	±10 V
Output current	5 mA maximum
Output resistance	100 Ω. maximum
I/O Connector Type	68P High Density (input), 68S High Density (output)

Power Requirements (with 16 filters)	ZA12	ZB12	ZC12	ZD12	ZA22	ZB22	ZC22	ZD22
+5V	3.3A	3.3A	3.3A	3.3A	2.9A	2.9A	2.9A	2.9A
+24 V	750mA	750mA	1.1A	1.15A	415mA	440mA	595mA	620mA
-24 V	750mA	780mA	1.1A	1.15A	385mA	410mA	570mA	595mA

Environmental and Mechanical	
Temperature range	
Operational	0°C to 50°C
Storage	-25°C to +75°C
Relative humidity	0 to 85%, non-condensing to +40°C
Cooling requirements	10CFM
Dimensions	340 mm x 233.35 mm x 30.48 mm (C-size VXIbus)
Front-panel potential	Chassis ground

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 (V252 output to V765)
Model 5868-Dxyz	Cable—68S High Density to 68P High Density V765 to V252 input)
Model 5868-Exyz	Cable—68S High Density to 68S High Density
Model V752-ZB11	Termination Assembly for V252
Model V765-ZA11	Rack-mount Termination Panel

ORDERING INFORMATION

MODEL	DESCRIPTION
V252-ZA12	16-channel, 8-pole Analog Filter
V252-ZB12	16-channel, 8-pole Analog Filter with Programmable Gain
V252-ZC12	16-channel, 8-pole Analog Filter with Simultaneous Sampling
V252-ZD12	16-channel, 8-pole Analog Filter with Programmable Gain and Simultaneous Sampling
V252-ZA22	8-channel, 8-pole Analog Filter
V252-ZB22	8-channel, 8-pole Analog Filter with Programmable Gain
V252-ZC22	8-channel, 8-pole Analog Filter with Simultaneous Sampling
V252-ZD22	8-channel, 8-pole Analog Filter with Programmable Gain and Simultaneous Sampling
Please consult the factory for additional cutoff frequency options. Example: A Model V252 16-channel Filter module with programmable gain, no simultaneous sampling and 8-pole. Elliptic filters with a 10 kHz cutoff frequency on all 16 channels would be ordered as: Quan 1 V252-ZB12 Quan 16 P708-E103	

Please note that a complete filter module consists of a V252-Zxy2 main board plus P708-wxyz series filter headers (16P708s for the 16-channel V252 options or 8 P708s for the 8-channel V252 options)..

Filter Plug-ins

Model P708-wxyz Filter Plug-in (16 required for V252-Zy 12, 8 required for V252-Zy22).
w: Filter type: B = Bessel, T = Butterworth, D = Constant Delay, E = Elliptic
xyz: Cutoff Frequency:

100= 10 Hz	501 =500 Hz	203 = 20 kHz
200= 20 Hz	102 = 1 kHz	503 = 50 kHz
500 = 50 Hz	202 = 2 kHz	104 = 100 kHz
101= 100 Hz	502 = 5 kHz	
201=200 Hz	103 = 10 kHz	

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KineticSystems Company, LLC

900 N. State St.
Lockport, IL 60441-2200

Toll-Free (US and Canada):
phone 1-800-DATA NOW
1-800-328-2669

Direct:
phone +1-815-838-0005
fax +1-815-838-4424

Email:
mkt-info@kscorp.com

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