

The Model V241 is a single-width, C-size, register-based, VXIbus module that is a front-end multiplexer for the V207 ADC or V208 MUX-bus™ compatible ADC.

This multiplexer is intended for medium to high channel count applications with high-level signals (± 10.24 V).

APPLICATIONS

Automotive body engineering tests
Automotive powertrain testing
Aircraft engine testing
Rocket engine testing
Wind tunnel data acquisition
Automatic Test Equipment (ATE)

V241

96-channel, High-level, Scanning MUX



Acquire data economically from pre-conditioned channels

FEATURES

- Use with V207 or V208 host ADCs
- 24, 48, 72 and 96-channel input options
- Differential inputs on all channels
- Interface high level inputs (± 10.24 V)
- 2 programmable calibration channels (an internal precision voltage source as well as the source on the V207 or V208 host ADC)

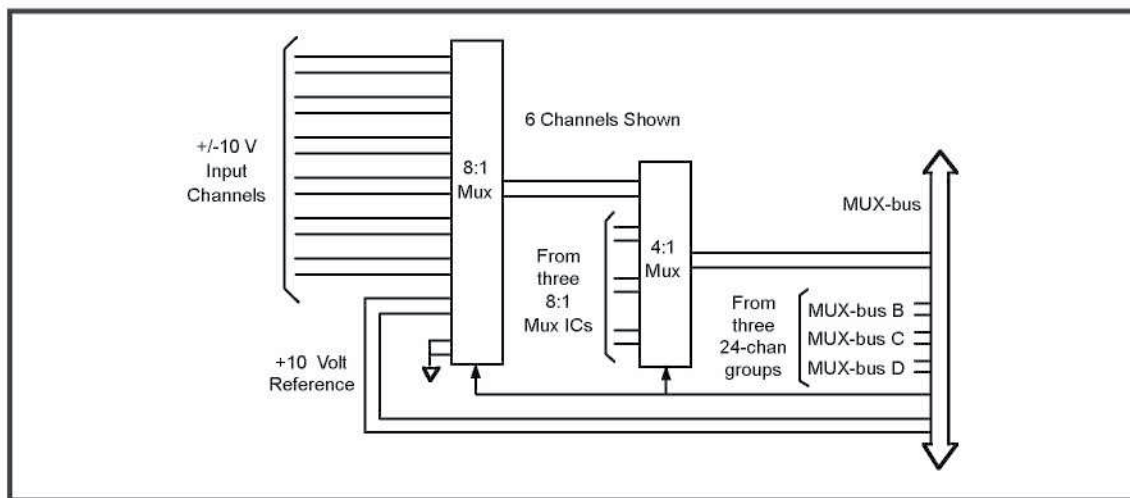
The Model V241 is a single-width, C-size, register-based, VXIbus module that is a front-end multiplexer for the V207 ADC or V208 MUX-bus™ compatible ADC. This multiplexer is intended for medium to high channel count applications with high-level signals (± 10.24 V). The V241 provides up to 96 high-level, differentially-received input channels. Up to three V241s can be used with the V207 for a maximum of 256 active channels. The V241 utilizes the Kinetic Systems MUX-bus concept which allows cableless analog signal transfer by way of the VXI Local Bus. A Scan RAM table on each module in the system provides the necessary multiplexing and synchronization mechanisms to transfer analog signals from MUX-bus source modules (V241, V252, V246, etc.) to MUX-bus sink modules (V207, V208).

On the V241, two calibration channels are provided for each block of 6 input channels on a common multiplexer. One of each pair is internally set to analog ground (0 V differentially) while the other receives the MUX-bus system calibration voltage from the ADC card (+10 V differentially). This method allows end-to-end calibration of the V241 and V207 or V208.

Alternatively, if no MUX-bus reference exists, the V241 injects its own reference to these calibration channels. This facilitates a completely independent self-test procedure onboard the module which ensures that each multiplexer is responding to a scanning address and its output is switching between its two calibration inputs. In addition, the power-up or software-initiated self-test checks the operational registers of the device and its MUX-bus capabilities.

The V241 utilizes a two-stage multiplexing strategy to maximize channel count and minimize bandwidth limiting capacitance. The front end includes current and voltage protection (to ± 35 V) and the intermediate signals are buffered by operational amplifiers for high accuracy and signal integrity.

The V241 supports both static and dynamic configuration. It may be accessed using A24/A16, D16 data transfers.





ITEM	SPECIFICATION
Number of Channels	24, 48, 72 or 96, differential input
Input Input range Maximum input voltage Input impedance	Differential: ± 10.24 V Common mode: ± 10.24 V ± 35 V continuous 20 M Ω minimum
Linearity Error	$\pm 0.002\%$ FSR
Output	MUX-bus only
Monotonicity	16-bit
Settling Time	6 μ s
Input Connector Type	3 -68P High Density
Power Requirements (typical) +5V +24 V -24 V	1.9A 150 mA 150 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

RELATED PRODUCTS

Model V207	16-bit, 500,000 Sample/second ADC Subsystem
Model V208	16-bit, 100,000 Sample/second ADC Subsystem
Model 5868-Bxyz	Cable—68S High Density to Underterminated
Model 5868-Dxyz	Cable—68S High Density to 68P High Density
Model 5868-Exyz	Cable—68S High Density to 68S High Density
Model V765-ZA11	Rack-mount Termination Panel

ORDERING INFORMATION

MODEL	DESCRIPTION
V241-ZA11	24-channel, High-level, Scanning MUX
V241-ZA21	48-channel, High-level, Scanning MUX
V241-ZA31	96-channel, High-level, Scanning MUX

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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

To find your local sales representative or distributor or to learn more about KineticSystems' products visit:

www.kscorp.com