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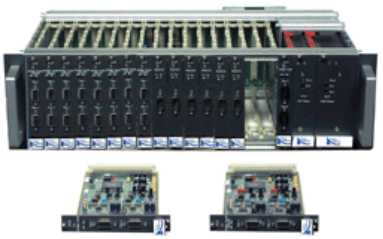
V710

VXI Signal Conditioning Termination Panel

The V710 active termination panel is a 19" rack mount 3U chassis that supports up to 16 signal conditioning modules for a maximum of 32 bridge signal conditioning channels.

The V710 is designed for use with the KineticSystems 3U front-end signal conditioning modules SC20 & SC21, that are controlled and monitored by the serial controller module SC15.

The V710 also accomodates ADC hosting connector modules SC16 & SC17, direct input modules SC25, and the system power supply modules SC10 & SC11.



SC20 Module | SC21 Module | SC15 / SC16 / SC17 Modules | SC25 Module | SC10 / SC11 Modules | V710 Chassis

SC21: VXI Bridge Signal Conditioner with Gain & Filtering Module



SC21 Data Sheet

Supporting Software

Request Quote

The SC21 is a 3U two-channel bridge signal conditioner module with programmable gain and filtering, and accommodating transducers that represent 1, 2 or 4 active arms of a bridge circuit.

Up to 16 SC21 modules for a total of 32 channels can be installed in a single V710 termination panel. Therefore, a 32-channel V213 16-bit ADC scanning module can be used with a single V710 chassis of SC21 bridge signal conditioners.

Strain gages, RTDs and other bridge-type sensors can be accommodated.

Each SC21 channel includes programmable gain from 1 to 2000 with prefilter gains of 1, 10, 100 and 1000 as well as post filter gains of 1, 2, 5 and 10. Each channel also includes a programmable Butterworth filter with cutoff frequencies of 10, 50 and 500 Hz. Each filter can also be bypassed. End-to-end channel calibration is accomplished by software configuring the input multiplexer on an SC21 channel to receive a reference voltage from the SC15 Serial Controller via the V710 backplane. Note that an SC15-AB11 Controller with Calibrator is required.

Sockets are provided for on-board bridge completion. High-precision 120Ω and 350Ω resistors are available. Shunt calibration is activated under program control. Shunt calibration resistors can be plugged into the module to accommodate various bridge requirements. Bridge excitation is programmable, with 0, 2.5, 5 and 10 V selection. The bridge excitation is non-isolated and balanced to ground (e.g. 10 V excitation is supplied to the legs of the bridge as +5 V and -5 V with respect to ground). Each SC21 channel contains a regulator for excitation, and individual remote sensing is provided for high excitation stability.

For applications that exhibit high electrical noise, the trifilar-wound input transformer provides excellent high-frequency common-mode rejection.

Connections are available to provide a full 10-wire bridge hookup. Each of the bridge channels is connected via a 15-contact "D" connector on the associated SC21 front panel. Setup and control of the SC20 are accomplished via a standard serial port on the SC15 Serial Controller module.

VXI Module Features

- Adds Bridge Signal Conditioning for use with VXI ADC Modules:
  - V213: 16-bit ADC Scanning Module
- 2 Bridge Signal Conditioning Channels per SC21 Module
- Up to 16 SC21 Modules for 32 Channels Total per V710 Active Termination Panel Chassis
- Accommodates 1, 2 or 4 Active Bridge Arms
- Programmable Gain from 1 to 2000
- Programmable 2-Pole Active Filters with Cutoff Frequencies of 10, 50 and 500 Hz
- Programmable Shunt Calibration & Bridge Balance
- Programmable Excitation with 0, 2.5, 5 or 10 V Selection with Excitation Alarm

VXI Module Ordering Information

SC21 Products and Part Numbers	
2 Channels, Bridge Signal Conditioner with Programmable Gain & Filtering, Trifilar Transformers	SC21-AA11
120Ω Bridge Completion Resistor Kit (3 per kit)	SC20-0002
350Ω Bridge Completion Resistor Kit (3 per kit)	SC20-0003

- Excitation Regulation and Sensing per Channel for Maximum Stability
- 10-Wire Transducer Hookups can be Accommodated
- Trifilar-Wound Transformer for Excellent High-Frequency CMRR

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